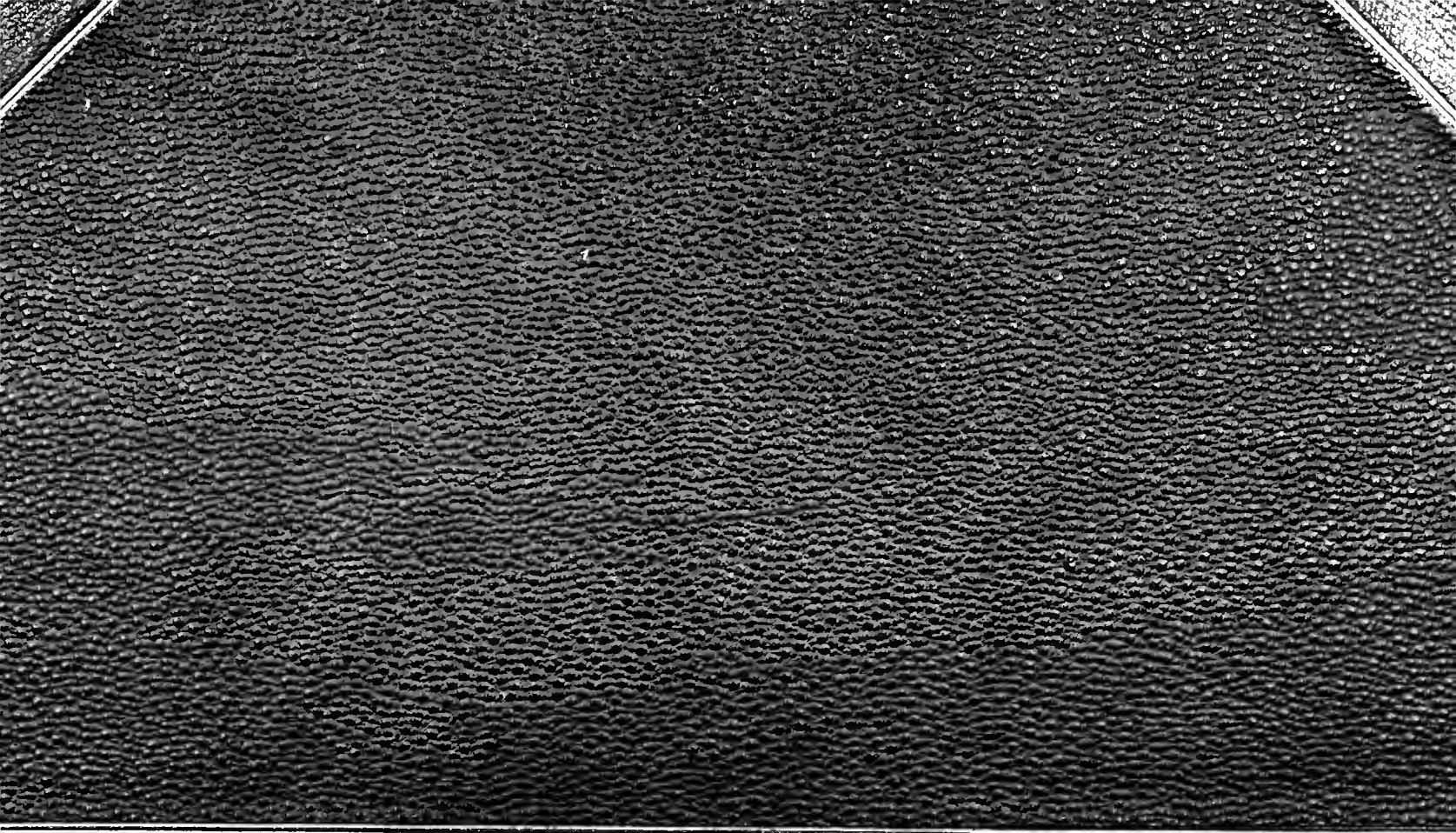


S 320
13

NOVITATES ZOOLOGICAE.

VOL. XI., 1904.

NOVITATES ZOOLOGICAE.

A Journal of Zoology

IN CONNECTION WITH THE TRING MUSEUM.

EDITED BY

THE HON. WALTER ROTHSCHILD, PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XI., 1904.

(WITH TWENTY-ONE PLATES.)

ISSUED AT THE ZOOLOGICAL MUSEUM, TRING.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1904.

CONTENTS OF VOLUME XI.

GENERAL SUBJECTS.

PAGES

See Introduction to the article on the Birds of the South-West Islands . 171—176

MAMMALIA.

1. On a collection of Mammals made by Mr. J. T. Tunney in Arnhem Land, Northern Territory of South Australia. Oldfield Thomas . . 222—229

2. On a new Rock-Wallaby from North-West Australia. Oldfield Thomas 365—366

3. Notes on the specimens of Wild Asses in English Collections. R. Lydekker . . . . . 583—596

4. New species of *Pteropus*, *Mus*, and *Pogonomys* from the Australian Region. Oldfield Thomas . . . . . 597—600

AVES.

1. The Birds of the South-West Islands Wetter, Roma, Kisser, Letti, and Moa. Ernst Hartert . . . . . 174—221

2. Beobachtungen auf Tenerife. Rudolf von Thanner . . . . 430—434

3. Miscellanea Ornithologica. Part I. Ernst Hartert . . . . 456—460

COLEOPTERA.

1. Some new Oriental *Anthribidae*. Karl Jordan . . . . . 230—237

2. Some new African *Anthribidae*. Karl Jordan. . . . . 238—241

3. American *Anthribidae*. Karl Jordan . . . . . 242—309

4. Some new African *Cerambycidae*. Karl Jordan . . . . . 364—365

5. Some new Coleoptera collected by the Rev. Henri A. Junod in Shilouvane, near Leydsdorp, in the Transvaal. L. Péringuey . . . . 448—451

LEPIDOPTERA.

PAGES

1. New American *Thyrididae*, *Uraniidae* and *Geometridae*. W. Warren . 1—173
2. Lepidoptera from British New Guinea, collected by Mr. A. S. Meek. Walter Rothschild . . . . . 310—322
3. On a large collection of *Rhopalocera* from the shores of the Victoria Nyanza. S. A. Neave . . . . . 323—363
4. A new form of *Prothoë* from the Solomon Islands. Walter Rothschild . 366
5. New Lepidoptera from British New Guinea. G. T. Bethune Baker . 367—429
6. New *Sphingidae*. Walter Rothschild . . . . . 435—440
7. Some new Moths. Karl Jordan . . . . . 441—447
8. A new African *Melanitis*. Walter Rothschild 451
9. New forms of Butterflies. Walter Rothschild . . . . . 452—455
10. New *Drepanulidae*, *Thyrididae*, *Uraniidae* and *Geometridae*, from the Aethiopian Region. W. Warren . . . . . 461—482
11. New *Thyrididae* and *Geometridae* from the Oriental Regions. W. Warren 483—492
12. New American *Thyrididae*, *Uraniidae* and *Geometridae*. W. Warren . 493—582
13. Two new *Saturniidae*. Walter Rothschild 601
14. A new subspecies of *Troides victoriae*. Walter Rothschild 654

SIPHONAPTERA.

1. Further contributions to the knowledge of the *Siphonaptera*. N. C. Rothschild . . . . . 602—653

LIST OF PLATES IN VOLUME XI.

Plate I. Photographs of African Butterflies.

" II. }
" III. } Three-colour photographs of Papuan Lepidoptera.
" IV. }
" V. }

" VI. Photographs of Papuan Lepidoptera.

" VII. }
" VIII. }
" IX. }
" X. }
" XI. }
" XII. } Lithographic Plates of the Structure of Siphonaptera. (By Karl Jordan.)
" XIII. }
" XIV. }
" XV. }
" XVI. }

" XVII. }
" XVIII. } Various species of Wild Ass. (By J. Smit.)
" XIX. }
" XX. }

" XXI. Coloured plate of *Microgoura meeki*, a remarkable new genus of Ground-Pigeon from the Solomon Islands. (By J. G. Keulemans.)

ERRATA.

Page 610, line 2 from bottom, *read* C. H. B. Grant; also on pages 611, 612, 636, 637, 638, 639, 647, 648.

.. 611, .. 4 .. top, .. Suricata.

.. 611, .. 17 .. bottom, .. *Otomys brantsii*; also on pages 636 and 638.

.. 616, .. 17 .. top, .. Sucre.

.. 617, .. 7 .. bottom, .. *Akodon albiventer*.

.. 639, .. 20 .. top, .. *Graphiurus ocularis*.

.. 643, .. 11 .. bottom, .. *Peromyscus*.

.. 647, .. 13 .. .. .. *Macroscelides proboscideus*.

21 APR 1904

NOVITATES ZOOLOGICAE.

Vol. XI. MARCH, 1904. No. 1.

NEW AMERICAN *THYRIDIDAE, URANIIDAE,* AND *GEOMETRIDAE.*

By W. WARREN, M.A., F.E.S.

Family *THYRIDIDAE.*

1. Siculodes triumphans spec. nov.

Forewing: satiny white; costal area olive grey, obliquely striated with dull reddish brown, and marked in the apical half by four oblique oblong red-brown patches; basal half of wing with velvety black transverse striae between the veins, coalescing into a blotch between median and submedian veins; an oblique broad velvety black bar from before middle of inner margin, tinged with reddish below subcostal vein; between the veins this bar is marked by yellowish white horizontal streaks, and beyond cell by a round white spot which nearly interrupts it; at three-fourths of inner margin another black bar reaching vein 4; before the anal angle a series of black spots, separated by the pale veins and above vein 2 becoming bifid, reaching as far as vein 6; apical area filled with fine transverse brown y-shaped streaks between the veins; marginal area tinged with rosy; marginal line diffuse, bright rosy, with black spots at the vein-ends, running out through the pale yellow fringe.

Hindwing: with rather regular olive fuscous transverse streaks between the veins; a largish round fuscous spot above anal angle; a submarginal row of six blackish spots between the veins; marginal line and fringe as in forewing.

Underside similar; but the subcostal vein of forewing marked with a narrow line of silvery scales, and the costal edge of hindwing with numerous reddish fuscous striae.

Head, shoulders, and base of patagia brown; thorax and abdomen white, the segments of the latter marked with black at base.

Expanse of wings: 54 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

A beautiful species, in many respects resembling *pulchelloides* Pag., but much larger, and distinguished at once by the yellow fringes and rosy marginal line.

2. Zeuzerodes subfulvata spec. nov.

Forewing: dingy grey, ochreous-tinged, covered with dense transverse fuscous striae, without any distinct lines or markings; fringe dark fuscous.

Hindwing: similar; traces of a dark postmedian band formed of three or four dark lines.

Underside similar; but the anal angle of hindwing has the ground colour dull fulvous, and the costa of forewing from middle to apex is bright coppery orange, forming a blotch before apex.

Head, thorax, and abdomen all dark fuscous.

Expanse of wings: 40 mm.

1 ♀ from Bulim, N.W. Ecuador, 160 ft., January 1901 (Flemming & Miketta).

The costa of forewing is strongly insinuate in middle; the hindmargin of hindwing nearly straight.

Closely resembling *Z. nigrata* Warr. from the Amazons, and *Z. cercinalis* Pag. from Peru, but apparently distinct.

Family *URANIIDAE*.

Subfamily EPIPLEMINAE.

3. **Epiplema commixtata** spec. nov.

Forewing: dark vinous grey, much speckled with black, especially towards base; the veins generally paler grey, black-speckled; costa with fine blackish striae; central fascia funnel-shaped, twice as broad on costa as on inner margin, suffused with vinous and brownish black along its edges; the inner edge curved above from one-third of costa to near middle of inner margin, its lower half vertical; the outer edge nearly vertical, slightly curved below costa; a red-brown black-edged blotch before the excision of hindmargin, with a smaller one above and below it; a slight submarginal shade, marked on costa and at anal angle; fringe reddish grey, preceded by a blackish line along the excision.

Hindwing: with the central fascia broader, its edges curved, the outer followed by a pale ochreous line; fringe reddish grey, greyer along base, preceded by a distinct black spot between veins 3 and 4.

Underside dull red-brown, thickly speckled and striated with black, the veins pale.

Face and palpi blackish; thorax and abdomen like wings; vertex, antennae, and anal tuft of ♂ bright pale ochreous.

Expanse of wings: 26 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

Distinguished by the ochreous vertex and antennae.

4. **Epiplema pallifrons** spec. nov.

Forewing: pale brown, tinged with lilacine, much mottled and speckled with darker; costa to first line broadly pale ochreous, with dark dots, beyond speckled dark brown and ochreous; the first line, from one-third of costa to one-third of inner margin, is sharply angled on vein 4 in the middle of the wing, finely edged inwardly with pale, broadly outwardly with brown; outer line from nearly two-thirds of costa, below which it is bent outwards, angled on veins 6 and 4, then inwardly curved to inner margin before anal angle, with the edging of inner line reversed; a brown submarginal line parallel to hindmargin, thickened somewhat before the excision, and ending in a black blotch which occupies the anal lobe; marginal line finely pale; fringe brown with the tips paler, black at anal lobe.

Hindwing: with the veins from base finely pale ochreous; a bluntly angled outer line finely pale, broadly edged internally with brown; the basal area within it below the median pale ochreous, mottled transversely with brown; above the median a pale olive-brown streak from base along lower half of cell; the upper half marked with alternate oblique streaks of brown and whitish ochreous; marginal area brown and ochreous, containing a conspicuous white patch beyond angle of outer line; marginal line fine, white, preceded by an olive-brown, inwardly black-edged narrow band, broadly interrupted at vein 5 and narrowly on vein 4 by whitish streaks.

Underside of forewing yellowish ochreous, black-speckled; a smoky brown-black cloud before hindmargin from anal angle hardly reaching costa, and a slight dark blotch before excision: hindwing pale ochreous with brown speckles, darker between the teeth.

Face and palpi black above, ochreous below; vertex, collar, shoulders, and antennae bright pale ochreous: thorax, patagia, and abdomen greyish brown, the segmental rings narrowly pale; abdomen beneath and legs ochreous.

Expanse of wings: 32 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Forewing with apex depressed; hindmargin concave from 7 to 4, straight from 4 to 3, concave above and below vein 2, the anal angle strongly lobed, and the inner margin very sinuous, fringed throughout with long fine pale hairs; hindwing with costa twice excised, veins 4 and 7 with long curved tails.

Distinguished at once by the wholly pale ochreous vertex and prothorax.

5. **Epiplema rectilinea** spec. nov.

Forewing: red-brown, speckled with black; the veins pale grey, black-speckled; first line from one-fourth of costa, oblique outwards to median vein, where it is bluntly angled, then oblique inwards, bent on vein 2, to one-third of inner margin, black-brown; second line from quite two-thirds of costa nearly straight to three-fourths of inner margin; the space between the lines darker brown, especially on inner margin and towards outer line; the base of wing also darker; an indistinct darker patch on hindmargin between veins 4 and 6; fringe red-brown, darker above the middle of wing.

Hindwing: with the two lines curved; the space between rather darker from costa to vein 2; an obscurely marked submarginal series of dark specks; fringe as in forewing.

Underside dull wood-brown, with transverse dark striae; basal half of forewing and outer line darker.

Face and palpi black-brown; vertex, thorax, and abdomen like wings, but the abdomen greyer.

Expanse of wings: 22 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

The hindmargin of forewing very slightly excised, the teeth at veins 4 and 7 scarcely visible; in the hindwing vein 7 is strongly toothed, but the tooth at vein 4 and the excision between are both inconspicuous. Antennae broken.

6. **Epiplema rostrifera** spec. nov.

Forewing: wood-brown, tinged and striated with dark brown; lines black-brown; first, from one-fourth of costa, obliquely curved to median vein, then vertical; outer line at two-thirds, finely edged with pale, vertical to the median vein, where it is outwardly toothed, then concave to three-fourths of inner margin; a dark brown blotch before the marginal excision edged by a black bow-shaped line; fringe brown, with a paler basal line.

Hindwing: with basal area paler, but marked with darker below the median vein, the course of which is denoted by ferruginous scales; first line acutely bidentate; second line, finely edged with pale, sinuous from costa to median vein, where it forms a sharp angle, then obliquely bowed to inner margin; the included space darker; a large black spot with a pale dash above it on margin between veins 3 and 4, surrounded by ferruginous scales and preceded by a patch of dark metallic scales; fringe dark brown with a pale lustrous line at base; a largish black cell-spot.

Underside paler, with dark speckles and suffusion.

Face and palpi black-brown; thorax and abdomen concolorous with wings; antennae and anal tuft of ♂ ochreous.

Expanse of wings: ♂ 20 mm.; ♀ 22 mm.

3 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

In the forewing the apex is truncate; the hindmargin from 7 to 6 is vertical, then slightly excised to 4, and thence straight, but not very oblique to anal angle; in the hindwing the teeth at veins 4 and 7 are acute and prominent; there is also a tooth at apex, and a slight one at the end of vein 6. The ♀ is somewhat paler than the ♂.

7. **Epiplema scabra** spec. nov.

Forewing: brick-red, overlaid with lilac-grey scales, and dusted with darker, the ground colour thereby assuming a very mottled appearance; between the outer and submarginal lines, reaching from costa to median vein is a hoary white space partly tinged with grey and with some dark grey speckling, and two oblique dark grey costal streaks; along the hindmargin a series of red lunules, edged by an indistinct submarginal line, the two before the excision swelling out into a large bilobed blotch encroaching on the white apical space; the two ordinary lines are reddish and obscure; first from one-third of costa, running outwards and bent in cell, then vertical and irregular to middle of inner margin; the outer at two-thirds is mainly vertical, but angled outward on veins 6 and 4, then concave; marginal line grey; fringe rufous, varied with lilac-grey.

Hindwing: like forewing, with a broad central band, slightly darker red, and edged outwardly by a paler line, bluntly rounded on vein 4; basal and costal areas paler; a dark spot below lower tooth; veins towards hindmargin pale, with black speckles.

Underside brick-red, coarsely black-speckled and striated: the forewing with all the three margins broadly grey and the fringe bright rufous; the hindwing less broadly grey-edged.

Face and palpi black; vertex and base of antennae dull rufous, rest of antennae grey; shoulders and patagia pale, whitish grey; thorax and abdomen darker grey.

Expanse of wings: 26 mm.

1 ♀ Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Forewing with apex truncate, hindmargin vertical from vein 7 to 6, both being slightly toothed, deeply excised to 4, which is strongly toothed, then oblique and crenulate to anal angle which is shortly lobed, the inner margin shallowly excised before it.

Hindwing with costa sinuate, strongly shouldered at apex, and produced at vein 7; 7, 6, and 4, all toothed; otherwise the margin is more or less straight from 7 to anal angle.

8. **Epiplema vulpecula** spec. nov.

Forewing: pale brick-red; the black-speckled costa and edges of central fascia tinged with pale grey; all the veins greyish and conspicuously marked with blackish dots; lines much as in *E. scabra*, described above; marginal lunules very obscure; the outer line followed above middle by a narrow lilac-grey fascia; fringe rufous (worn).

Hindwing: like forewing, with the central fascia very indistinct, but marked on inner margin by a pale blotch; a brown-black submarginal spot below lower tooth.

Underside of forewing fulvous ochreous, coarsely black-speckled, the costal and hindmargins paler, less fulvous; hindwing paler, with only the hindmargins fulvous, containing a blackish submarginal cloud towards anal angle.

Face and palpi black; vertex and antennae pale rufous ochreous; shoulders, patagia, thorax, and abdomen grey, the abdomen tinged with rufous.

Expanse of wings: 30 mm.

1 ♀ from Santo Domingo, Carabaya, S. E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Evidently closely allied to *E. scabra*, and also to *E. draco* Warr. from Bolivia, the outline of the wings being the same in all three species.

9. **Hemioplisis? alternata** spec. nov.

Forewing: dull purplish grey, darker towards inner and hindmargins; an obscure dark transverse shade near base; first line from one-third of inner margin, straight and oblique towards apex, acutely angled on vein 4 and retracted to costa; a curved line from middle of inner margin, concave outwards, angled on vein 7 and retracted to costa; a dark slightly sinuous submarginal line, bent to costa before apex; before this line, which is followed by a dark cloud, an oblique cloudy shade slopes towards apex, becoming obsolete above middle; fringe concolorous.

Hindwing: with basal grey area crossed by two straight parallel dark lines; outer half of wing coarsely and closely speckled with black, the ground colour towards hindmargin becoming fulvous.

Underside of forewing sprinkled with ferruginous and fulvous, the hindmargin grey beyond the dark submarginal line; hindwing dull whitish grey, speckled with darker, and tinted with fulvous towards margin.

Face and palpi black; thorax and abdomen purplish grey.

Expanse of wings: 22 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Probably not really referable to *Hemioplisis*: the costa is arched and the apex blunt, the hindmargin being shortly truncate to vein 7, which minutely projects in place of the true apex, the hindmargin thence being sinuate; the hindmargin of hindwing likewise projects, but very bluntly, at vein 7. The neuration is normal: vein 5 from upper end of discocellular: 6 and 7 stalked: 8 and 9 stalked.

10. **Hemioplisis metallica** spec. nov.

Forewing: dark chocolate brown, covered with exceedingly fine bluish grey striations: the lines very indistinct, dark brown, edged by a very fine line of bluish grey scales; first from one-third of costa to about one-fourth of inner margin, broadly outcurved in the middle of the wing; second from three-fifths of costa to three-fifths of inner margin, similarly outcurved between veins 4 and 6; marginal area below middle lightened by broader bluish white striae, with a round white spot on each side of vein 3, one obliquely below the other; fringe dark brown; veins towards margin deep ferruginous.

Hindwing: with the two lines, antemedian and postmedian, near together, the space between them slightly darker; costal area dull greyish ochreous; the ferruginous veins ending in a deep ferruginous marginal line, preceded by a broad line of plumbeous scales cut up into dashes by the veins: between veins 3 and 4 before the hindmargin a boss of plumbeous scales edged with black and flanked by very fine black and yellow striae; fringe dark.

Underside dull grey brown; costal area of forewing diffusedly ochreous; the subapical hindmargin dark-brown; the two submarginal spots white.

Face and palpi dark brown, ochreous beneath; antennae ochreous, the shaft narrowly grey above; vertex, thorax, and abdomen brown with grey dusting; abdomen below ochreous; legs ochreous and grey.

Expanse of wings: 30 mm.

1 ♀ from Trinidad.

Differs somewhat from the other species: the hindmargin of forewing, after the inflection below the shortly falcate apex, is strongly gibbons throughout: on the other hand the hindmargin of hindwing is nearly straight, the apical angle rounded, the anal angle sharply rectangular; the palpi are quite short.

11. **Leuconotha persordida** spec. nov.

Forewing: dull dirty grey; all the veins blackish; faint traces of a smoky dark antemedian and postmedian shade; fringe grey.

Hindwing: similar, the veins equally dark; cell-spot plainer.

Underside with the veins finer; a small black spot before margin of forewing between veins 6 and 7.

Face, palpi, vertex, and anal tufts, white; thorax and abdomen grey; shoulders and patagia sometimes quite pale.

Expanse of wings: 26 mm.

3 ♂♂ from Chulumani, Bolivia, 2000 m., December, beginning of wet season (Simons).

Lophotosoma gen. nov.

♂. Forewing shaped as in *Thysanocraspeda*: hindwing triangular, the hindmargin nearly straight, irregularly waved, the abdominal margin swollen, lobed and contorted beneath at anal angle, the hollow beneath lined with rough scales; costal margin bisinuate.

Penultimate segment of abdomen armed with lateral tufts of hair, erect and meeting above the dorsum. Neuration of *Epiplema*.

Type: *Lophotosoma ustanalis* spec. nov.

12. **Lophotosoma ustanalis** spec. nov.

Forewing: lavender grey, speckled with black and suffused with darker gre in places, and varied with vinous red streaks between the veins; an oblique red line from costa at one-third to median vein appears to form with an inwardly oblique red line from two-thirds a costal triangle; in the dark grey hindmargin three short red streaks between the veins precede the excision; and there are traces of a series of dark spots forming a submarginal line, ending in a dark grey patch at anal angle.

Hindwing: ferruginous red, black-speckled; a central fascia with darker edges; a black dot before hindmargin between veins 3 and 4, and a black patch at anal angle, as if it had been burned.

Underside of forewing reddish, streaked with black, the basal area blackish; of hindwing grey, tinged with reddish towards apex only.

Face and palpi black; vertex reddish; thorax and abdomen grey; the tufts on abdomen pale ochreous.

Expanse of wings: 22 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

The unique specimen is somewhat worn and the fringes are destroyed; but the lobed hindwing and pale abdominal tuft will serve to distinguish it.

Morphomima gen. nov.

Forewing: with costa curved throughout; apex produced, subfalcate; hindmargin oblique, with a faint bulge at middle.

Hindwing: with apex squared; hindmargin straight to vein 4, slightly toothed at veins 2, 3, 4, excised below 2; the inner margin short. Palpi slender, porrect, reaching well in front of face; antennae of ♂ thick, with close curved serrate teeth, as in *Coelura*.

Neuration: forewing, cell less than half of wing; discocellular oblique inwards; the subcostal and median veins inflexed towards end, the latter strongly; first and second median nervules short-stalked from the bend, third from the upturned end; 5 from just below upper angle of cell: 6, 7 stalked from the angle; 8, 9, 10 stalked; 11 free; hindwing of ♂: cell very short, the subcostal vein arched; vein 7 before end, 5 from near upper end of the oblique discocellular; 3, 4, from the lower end of cell, 2 shortly before end.

Type: *Morphomima fulcitacta* spec. nov.

Agrees with *Coelura* Warr. in structure of antennae and in character of markings, and with *Meleaba* Wlk. in shape of wings.

13. **Morphomima fulvitacta** spec. nov.

Indistinguishable from *Coeluromima subfasciata*, except by the presence of some fulvous scaling below costa at the angulation of the outer line. The difference in the antennal structure will separate it from *subfasciata* as well as the contour of the hindwings, which is that of *Sangria*.

Expanse of wings : 35 mm.

1 ♂ from Colombia.

Neodirades gen. nov.

Differs from *Dirades*, the Old-World genus, in the following points :—vein 11 of forewing rises far back near base and anastomoses strongly with 12 ; vein 5 from just above middle of discocellular ; vein 1 is swollen and bent near base, with a small fovea below the bend in both sexes. In the hindwing the inner margin of the ♂ is folded and furrowed, but lacks the pencil of hairs.

Type : *Neodirades spurcata* spec. nov.

14. **Neodirades spurcata** spec. nov.

Forewing : greyish white, coarsely black-speckled ; a darker central fascia with curved edges, twice as broad on costa as on inner margin, limited by a paler, more whitish, area ; an interrupted blackish streak from apex to anal angle ; a dark marginal line ; fringe dark.

Hindwing : similar in ♀ ; in the ♂ the whole wing above vein 5 is white, crossed by a dark outer line ; the inner marginal half being much blacker.

Underside dark grey, paler in hindwing.

Head, thorax, and abdomen blackish.

Expanse of wings : ♂ 17 mm. ; ♀ 19 mm.

A pair from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Saccoploca gen. nov.

♂. *Forewing :* ample, triangular ; costa faintly curved, becoming strongly convex at apex ; apex depressed, minutely acute ; hindmargin long, incurved just below apex, then slightly oblique and convex ; anal angle rounded ; inner margin convex, about as long as outer margin. In the ♀ of the type-species the hindmargin of forewing is excised between veins 4 and 7.

Hindwing : with apical angle rounded, anal angle rectangular ; inner margin in ♂ largely folded over underneath, concealing a mass of flocculent scales ; the whole of the outer margin up to the fringes clad beneath with rough mealy scales ; a semi-transparent fovea at base of cell. In the ♀ the hindwings are simple. Palpi porrect, not reaching beyond face ; third segment slender, distinct ; antennae subserrate, laterally flattened in the ♂, lamellate in the ♀ ; tongue and frenulum present.

Neuration : forewing, cell not half as long as wing ; discocellular vertical ; first median at two-thirds, second at five-sixths ; vein 5 from upper angle of cell ; 6, 7 stalked from the same point ; 8, 9 stalked from two-thirds, 10 just before them ; 11 from one-third, bent up towards 12 ; hindwing with 3, 4, and 6, 7 stalked.

Type : *Saccoploca excisa* spec. nov.

15. **Saccoploca consimilis** spec. nov.

The ♂♂ of this species are exceedingly like those of *S. excisa*, but smaller; the forewing is narrower, slightly more falcate, and the hindmargin more oblique and sinuous; the cross-lines finer on both wings; the anal segment of the abdomen is ochraceous, and on the underside the hindwing is often ochraceous towards the hindmargin. In the ♀ the hindmargin of forewing resembles that of the ♂, having no trace of excision; the ochraceous tint of the underside is still more noticeable than in *excisa*.

Expanse of wings: ♂ 30—35 mm.; ♀ 35 mm.

5 ♂♂, 5 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

16. **Saccoploca excisa** spec. nov.

♂. *Forewing:* dark brownish purple, when fresh thickly dusted with fine bluish white scales, which are densest along inner edge of central area, towards the anal angle, and along the veins towards hindmargin; lines deeper purple; first from one-fourth of costa, oblique outward, roundly bent in cell, then parallel to hindmargin to inner margin at one-third, emitting sharp spurs outwards on the folds; outer line from three-fourths of costa to two-thirds of inner margin, parallel throughout to hindmargin, but faintly bent outward on the median vein, finely edged with a bluish white line; an oblique purple shade from just before apex to vein 4, then retracted towards margin and becoming obsolete; fringe purple.

Hindwing: with costal region pale pinkish ochreous, the rest purple-brown, powdered with white scales towards anal angle, with the two lines running only across the cell.

Underside dull cinereous, with transverse darker striae towards costa; costal area of forewing, especially towards apex, ochraceous; fringe of hindwing ochraceous; the rest of the rough hair grey; scales within the fold ochraceous.

Head, thorax, and abdomen purple-brown.

The ♀ of this species has the hindmargin of the forewing excised between veins 7 and 4, and in general appearance is much browner, less purple, than the ♂, the underside of both wings being bright ochraceous with dense brown striations; on the upperside the bluish white scales are denser towards the ends of the veins and along the marginal line.

Expanse of wings: 40 mm.

7 ♂♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

Thysanocraspeda gen. nov.

This name is proposed for a group of South American *Epiplemidae*, of which the ♂♂ have a spreading pencil of hairs from the abdominal margin of the hindwing. At the base of the cell of the same wing is a small fovea-like semi-transparent spot. The space between the median vein and vein 1 is compressed, forming a furrow beneath. This furrow in most cases bears patches of rough mealy scales. In the forewing the hindmargin is bluntly toothed at veins 4 and 7, with a slight excision between; the hindwing is strongly toothed at vein 7, and very slightly toothed at vein 4. Neuration as in *Epiplema*.

Type: *Thysanocraspeda semicastanea* spec. nov.

Erosia ochodontaria Snell. must be referred here. The group seems largely developed in S.E. Peru.

17. **Thysanocraspeda geminipuncta** spec. nov.

Forewing: pinkish brown, with a few blackish speckles; the central fascia tinged with olive-brown; its inner edge, dark brown, runs from one-third of costa to one-third of inner margin, strongly but bluntly angled on the median vein; outer edge from two-thirds of costa is angled above the middle, then incurved, approaching the inner edge on the submedian fold, then again outcurved; both are marked above the submedian vein by an oblong velvety black blotch, and some smaller black spots below it; a dark cloud at anal angle; a thick velvety black line before the excision of forewing, with a black spot above it; fringe brown, marked with black at the base beyond the black line.

Hindwing: darker red-brown, the base and inner margin to vein 2 pinkish ochreous; the central fascia darker, with its blackish edges running through to inner margin, each with a blackish spot on vein 2.

Underside of forewing duller red, with dark transverse striae and traces of the lines: hindwing grey, reddish only along costal third; the furrow, as in *T. squamiplaga*, containing an oval patch of rough ferruginous scales followed by patches of rough grey scales, which also cover vein 2; the tuft of hair on inner margin yellow.

Face and palpi blackish; vertex, thorax, and abdomen pinkish ochreous.

Expanse of wings: 22 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

18. **Thysanocraspeda inornata** spec. nov.

Forewing: uniform dark grey, speckled with darker; a brown lunulate mark inwardly black-edged before the excision of hindmargin; in the ♀ specimen there are traces of a slightly darker central fascia, the outer edge of which is nearly vertical and toothed on the median vein, and the inner edge curved; fringe grey, darker along the excision. Anal angle with a patch of rough scales which extend linearly along the submedian vein and vein 2, which is deflected.

Hindwing: wholly dark grey.

Underside paler grey; the furrow of hindwing and the space below vein 2 thickly beset with rough grey scales; the tuft on inner margin pale yellow. Face and palpi black; vertex, thorax, and abdomen grey; anal tuft of ♂ whitish.

Expanse of wings: 20—22 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

19. **Thysanocraspeda semicastanea** spec. nov.

Forewing: of the same size and shape as the next species, *Th. squamiplaga*, but with the ground colour brighter, more lilac-grey; the markings paler chestnut, not mixed with blackish scales; the central fascia more vertical, twice as broad

in the narrowest part, the basal indentation being less pronounced, and the outer edge nearly vertical or slightly bent on the median vein ; much less interrupted by the ground colour towards costa ; the marginal chestnut patch much larger ; no bed of rough scales at the anal angle, but the space beyond central fascia traversed throughout by a darker grey diffuse shade.

Hindwing : as in *squamiplaga*, but the two teeth more strongly marked, the lower one, at vein 4, with a black dot at its base ; the tuft of hair on inner margin concolorous grey, not yellow ; the fringe grey to vein 2, above it chestnut.

Underside dark grey, black-speckled, on the forewing tinged with reddish ; the furrow of hindwing without abnormal scales, the cell with no basal fovea. Head and palpi black ; thorax and abdomen pale grey.

Expanse of wings : 26 mm.

4 ♂♂, 5 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, November and December 1901, wet season, 6000 ft. (Ockenden).

20. **Thysanocraspeda squamiplaga** spec. nov.

Forewing : pale slaty grey, with a few blackish speckles ; the markings dark chestnut ; central fascia broadest on costa, narrowest below the middle ; the inner edge strongly incurved in middle, running from about one-third of costa to one-third of inner margin, the outer bluntly angled on veins 6 and 4, then concave ; in the lower half of this fascia the chestnut is mixed with black, and in the upper half more or less overrun by the grey of the ground colour ; a large rounded chestnut patch on hindmargin from vein 6 to 4, or below 4, with a small patch above 6 ; a small bed of rough, semi-erect, dark grey woolly hairs at anal angle ; fringe chestnut.

Hindwing : with basal area and inner margin, as far as median vein and vein 2, grey, the rest dark chestnut ; the central band slightly darker and mixed with blackish, edged outwardly by a somewhat paler line, bent outwards at middle ; fringe dark chestnut from apex to vein 2, then yellowish ; tuft of the inner margin bright yellow.

Underside dull grey, speckled with black ; the fringes reddish ; the furrow between vein 1 and the submedian fold with a large oval patch of mealy, rust-coloured scales, followed towards margin by rough mealy grey scales, which also extend along the submedian fold itself.

Head and palpi black ; thorax and abdomen grey.

Expanse of wings : 25 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, November and December 1901, wet season (Ockenden).

Forewing bluntly angled at veins 4 and 7, with a shallow concavity between ; hindwing strongly toothed at vein 7, slightly at vein 4, the anal angle rounded ; costa sinuous, the basal shoulder rough-haired ; the base of cell with a small oval semihyaline spot. Antennae with close curved clavate teeth. The species agrees in many points, especially in the yellow tuft of hindwing, with *E. ochodontaria* Snell. ; but as that writer makes no mention of the rough scales on forewing above and hindwing below, nor of the basal fovea, I am obliged to consider it distinct.

FAMILY *GEOMETRIDAE*.

SUBFAMILY OENOCHROMINAE.

Entogonia gen. nov.

Forewing: triangular; costa nearly straight, depressed at apex; hindmargin oblique, hardly curved; inner margin somewhat convex.

Hindwing: with rounded hindmargin: both angles well marked, the apical rounded, the anal rectangular; inner margin at two-fifths with an angular fringed projection.

Abdomen (♂) short, not nearly reaching anal angle of hindwing; antennae ciliated; palpi porrect, second segment thick, rough-scaled, terminal segment small, depressed; tongue present; frenulum very fine; hindtibiae dilated, with a large pencil of hairs and four spurs.

Neuration: forewing, cell half as long as wing; discocellular slightly concave outwards; first median nervule just beyond middle, second near before third; radials normal; 7, 8, 9, 10 stalked from well before end of cell; 11 out of 12, anastomosing with 8, 9, 10: hindwing, discocellular oblique, the radial from the centre; costal approximating to subcostal shortly near base: veins 3 and 7 before angles of cell.

Type: *Entogonia schistacea* spec. nov.

21. **Entogonia schistacea** spec. nov.

Forewing: pale slate-colour; the lines pale; first very indistinct, from one-fourth of costa to one-third of inner margin, curved, plainer below middle; second at two-thirds, roundly bent outwards beyond cell, then parallel to hindmargin; a faint pale cell-spot; a faint waved whitish submarginal line; fringe concolorous, with a very fine black basal line, thickened into dots between veins towards apex.

Hindwing: with postmedian and submarginal lines, both more distinct; the black basal fringe line preceded by a whitish line.

Underside paler, the markings faintly showing through: cell-spots dark, indistinct.

Head and palpi dark brown; thorax and abdomen like wings.

Expanse of wings: 30 mm.

1 ♂ from San Ernesto, Bolivia, 1000 m., August, September 1900 (Simons).

Leucoreas gen. nov.

Forewing: ample; costa slightly curved; hindmargin hardly oblique.

Hindwing: ample; hindmargin curved; both angles prominent, rounded.

Antennae simple, subserrate, pubescent; palpi short and stout; forehead protuberant; tongue and frenulum both well developed; hindtibia with four spurs.

Neuration: forewing, cell nearly half as long as wing; discocellular oblique, concave; first median nervule just beyond middle, second at seven-eighths; radials normal; 7, 8, 9, 10 stalked from the bend in subcostal; 11 free, anastomosing with 12, 10 anastomosing with 11, and again with 8, 9: hindwing, costal and subcostal

approximating shortly, but not touching near base, 7 from before end of cell; radial from centre of discocellular; medians as in forewing; inner margin between vein 1 and the submedian fold containing a furrow lined with rows of hairs.

Type: *Leucoreas rhodosticta* spec. nov.

22. **Leucoreas rhodosticta** spec. nov.

Forewing: glossy white, with three straight pale brown bands crossing the wing: first from one-third of costa to beyond middle of inner margin; second from about two-thirds of costa to three-fourths of inner margin; third from five-sixths of costa to just before anal angle; fringe white.

Hindwing: with two bands, median and submarginal, starting from vein 6, and curving into inner margin above anal angle.

Underside of forewing with the two outer lines represented by rosy spots on the veins, the inner faint, the outer with the spots large and distinct; base of cell and costal area tinged with rosy: hindwing with the outer line of spots and the hairs of the fold on the inner margin rosy.

Collar, vertex, face, and the fore-femora deep rosy; face below white: palpi dark fuscous; foretibiae and -tarsi dark fuscous with the joints white; thorax, abdomen, and other legs white.

Expanse of wings: 52 mm.

2 ♂♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

23. **Pycnoneura turpis** spec. nov.

Forewing: dull iron-grey; two transverse bands dull olive-brown, edged on both sides by a whitish lunulate line, which in fresh specimens is probably silvery; the first near base, outcurved; the second at two-thirds, sinuous, incurved beyond cell and again on the submedian fold; the marginal area beyond it dull brownish, except at costa and on inner margin; submarginal line indistinct, whitish towards costa, darker below; fringe brown with base a little paler; a round brownish discal spot.

Hindwing: with the second band central; the apex only brownish; the submarginal line pale, but obscure, throughout.

Underside dull cinereous.

Head and palpi black-brown; thorax and abdomen like wings; abdomen below pale brownish.

Expanse of wings: 44 mm.

1 ♂ from San Ernesto, Bolivia, 1000 m., August—September 1900 (Simons).

This species, both as regards shape of wings and markings, might well be identical with *Lagyra?? dentilineata* Wlk. xxvi. 1486 from Rio Janeiro, the type of which, from the Fry Collection, should be in the Oxford Museum, but which was not identified by Mr. Schaus (cf. *Pr. Z. S.* 1896. p. 646); but Walker says that the antennae of his insect are rather broadly pectinated, whereas the antennae of the present species are shortly ciliated. It would seem that Walker had more than one specimen before him, as he gives the expanse of wings 16 to 18 lines.

SUBFAMILY MECOCERATINAE.

24. **Phellinodes interrupta** spec. nov.

Like *P. hedylaria* Guen. and *conifera* Warr., but the large white triangular spot broken up by the fuscous shading into a double costal flattened blotch and a white blotch below it; the costa from base whitish, becoming broadly white at middle.

Expanse of wings: 52 mm.

1 ♀ from S. Javier, R. Cachabi, Ecuador (Flemming and Miketta).

25. **Phellinodes obstructa** spec. nov.

This species is likewise closely related to *P. hedylaria* Guen., but the large white triangular blotch is still further reduced than in *P. interrupta*, and forms merely a flattened costal mark; costal edge narrowly white, and forming a second flattened whitish blotch in the middle of wing; the outer margins of both wings darker.

Expanse of wings: 52 mm.

1 ♂ from Pambilar, Ecuador (Flemming and Miketta).

26. **Phellinodes uniformis** spec. nov.

Forewing: brownish grey, rippled with darker; the costal area of the same tint throughout as the rest of wing; before the reddish brown apical area a crescent of three small white spots, the middle one only slightly larger than the other two, roughly lunate.

Hindwing: brownish grey, with slight striation.

Underside like upper; the apical area paler, especially externally.

Head, thorax, and abdomen like wings.

Expanse of wings: 42 mm.

1 ♂ from R. Napo, E. Ecuador, February 1900 (Haensch *)

SUBFAMILY CYLLOPODINAE.

27. **Campylona contingens** spec. nov.

Forewing: rather deep yellow; the costa and apical half of wing black; the yellow basal area forming a triangle touching inner margin; apical area containing two yellow blotches; the first elongate, just beyond middle, almost touching costa and rounded before anal angle; the second, semilunate, towards apex, its ends equally distant from costa and hindmargin; fringe black.

Hindwing: yellow, with a broadish black marginal border from costa before apex to anal angle, somewhat bulging in middle of wing.

Underside the same.

Face and palpi below yellow, above black; vertex, shoulders, and patagia black, with the centre of first and bases of the two last yellow; abdomen yellow, with black dorsal and fine lateral lines, all plain only towards anal extremity; abdomen beneath and legs yellow; forelegs fuscous in front.

Expanse of wings: 39 mm.

* The part of Ecuador east of the Andes is, on a map issued by the Peruvian Government, marked as belonging to Peru as far north as the Rio Yapura.

1 ♀ from Coca, E. Ecuador, 260 m., March 1900 (Haensch).

Differs from *Campylona solilucis* Butler (*Phaeochlaena*) in not having the inner margin of forewings black, herein agreeing with the type species *bicolor* Moeschl.

28. **Cyllopoda angustistriga** spec. nov.

Differs from *osiris* Cram., to which it is most nearly allied, in having the pale blotch on inner margin of forewing, which usually reaches to the median vein, reduced to a narrow streak, limited above by the submedian; in the hindwing, on the other hand, it is the dark border running from apex to anal angle which is narrower than in *osiris*.

Expanse of wings: 36 mm.

1 ♀ from Chirimayo, S.E. Peru, 1000 m., July 1901, dry season (Ockenden), *type*; 1 ♂ from the river Shuenri, S.E. Peru, June 1901, dry season, 2500 ft. (Ockenden).

29. **Cyllopoda chibcha** ab. **cuneifera** nov.

In this form of *chibcha* Schaus, the marginal border of the hindwings, which in typical specimens is simply notched at vein 2, is produced along that vein towards lower angle of cell as a sharp-pointed tooth.

1 ♂ from Sapucay, near Villa Rica, Paraguay, July 1902 (Foster), *type*; 1 ♂ from Yungas, Bolivia, November 1901, end of dry season, 1200 m. (Simons).

30. **Darna rubriplaga** spec. nov.

Forewing: deep brown-black, the margins darker-scaled; an elongated bright red blotch beyond the cell, its upper edge curved but not quite touching the costa, the lower edge straight, ending in a blunt point towards hindmargin, rounded basewards; the space beneath it and below median vein paler brown; fringe concolorous.

Hindwing: with margins dark brown, the centre paler, containing an elongated blotch of black scales.

Underside of forewing with the red patch rounder, reaching below vein 3; the area below the median to vein 2 lustrous; of hindwing grey-brown, darker along the margins.

Head, thorax, and abdomen velvety blackish, the last with a lateral blue sheen including the anal segment.

Expanse of wings: 40 mm.

1 ♂ from Rosario, St. Inez, E. Ecuador, 1250 m., April 1899 (Haensch).

31. **Darna volitans** spec. nov.

Forewing: velvety brown-black in the apical and inner-marginal areas, the rest of the wing deep yellow; the edge of the yellow area runs from three-fifths of costa obliquely towards the end of vein 2, before which it is bluntly angled, running basewards nearly to the origin of vein 1, then sinuous and more or less parallel to costa to near the base of inner margin; its costal margin is narrowly black; fringe black.

Hindwing: smoky black; the costal half purplish grey and semidiaphanous, containing an oval dull pink patch, in the centre of which lies an elongate patch of brown scales.

Underside as upper: inner margin of forewing pale and blurred; the black less deep and with a bluish tinge.

Head and thorax deep black; abdomen and legs dull black.

Expanse of wings: 44 mm.

4 ♂♂ from Chanchamayo, Peru, January to August 1901 (Hoffmanns).

32. **Ephialtias fornax** and ab. **latimargo** nov.

Lyces fornax Druce, *Pr. Z. S.* 1885, p. 525, t. 32, fig. 11.

Of five examples, apparently of this species, two are ♂♂ from Baiza, Ecuador, dated January 1900, three are ♀♀ from Rosario, St. Inez, E. Ecuador, dated April and November 1899. These two ♂♂ are as large as the ♀♀, and differ as follows: the oblique yellow band in the forewing of the ♀♀ is straight with a slight protuberance outwardly above its lower end; in the ♂♂ this band is sinuous and without the protuberance. In the hindwing the black marginal border is twice as wide as in the ♂♂, and the yellow area in consequence twice as narrow; its inner edge is irregularly jagged in the ♂♂, and evenly undulated in the ♀♀. The antennae of the ♂♂ are pectinated. In his description of *fornax*, which he referred to *Lyces*, the ♂♂ of which genus should have simple antennae, Druce says that the ♀♀ are larger than the ♂♂ (45 and 39 mm.), but that except in point of size they are similar. If this be correct, the two ♂♂ from Baiza must be at least an aberration, and may be a distinct species. At present they may be left as ab. *latimargo*.

33. **Euchontha commixta** spec. nov.

Forewing: dark olive-brown; the veins paler; a dull partially scaled hyaline blotch lying beyond cell and before the middle of wing between the subcostal and median veins, traversed by the two swollen radials; a small white spot before apex, crossed by veins 6 and 7; fringe dark brown.

Hindwing: white, with a uniformly broad black marginal border; the base narrowly smoky grey.

Underside of forewing blacker; both white spots larger; the median one reaching to base of wing; costal area white at base; hindwing as above.

Palpi black externally, white inside, the second joint yellow; face white at top and in middle, black between and below; vertex black with a pale spot behind; thorax black with a white streak along middle; patagia black with an orange lateral spot at base; abdomen cinereous, the basal segments whitish on dorsum only; abdomen below and legs internally white; legs externally blackish.

Expanse of wings: 32 mm.

1 ♂ from Upper Toro River, La Merced, Peru, August to September 1900, 3000 m. (Simons).

34. **Euchontha memor** spec. nov.

Forewing: brown-black; all the veins slightly paler; a broad oblique white fascia from subcostal vein before middle of wing to vein 1 before anal angle; a small white subapical spot crossed by vein 7; fringe brown-black.

Hindwing: dull olive grey-brown, the apex fuscous, the costal margin whitish; the veins pale.

Underside similar, but paler, especially in the hindwing.

Palpi externally black, internally whitish; face white at middle with a black bar above and below; vertex and thorax blackish; abdomen cinereous; an orange spot near base of forewing on patagia.

Expanse of wings: 30 mm.

1 ♂ from Chanchamayo, January—August 1901 (Hoffmanns).

Genus **Hemigymnodes** Warr., *Noc. Zool.* i. p. 377 (1894).

This genus, which seems most nearly allied to *Tithraustes*, would be better placed in the *Cyllopodinae* than in the *Orthostixinae*. In the hindwing the costal and subcostal veins anastomose near base at a point, and are not united, as stated in the original description, by a bar. In the forewing veins 7, 8, 9 are stalked from close to end of cell, 10 and 11 are stalked also, and 10 anastomoses with 7, 8, 9. The antennae are subserrate, with short fascicles of curled cilia.

Josia erectistria spec. nov.

Forewing: velvety brown-black, with an elongated broad yellow streak from base of inner margin, parallel to costa throughout, and ending its own width where widest before hindmargin; slightly constricted before end in the ♀, much narrowed and ending in a blunt point directed towards apex in the ♂, so that the costal margin appears much broader; fringe brown.

Hindwing: yellow, with the costa narrowly and the hindmargin more broadly black, especially in the ♂.

Underside similar, the edges of the yellow markings more concise; in the ♀ the costal vein of hindwing is marked with brown scales; in the ♂ the subcostal vein bears a black blotch at its end, and vein 7 is blackish.

Head, thorax, and abdomen brown-black.

Expanse of wings: ♂ 46 mm., ♀ 52 mm.

3 ♀♀, 2 ♂♂: 2 ♀♀ from Baños, E. Ecuador, September 1899, *type*; the 2 ♂♂ and the other ♀ from Balzapamba, E. Ecuador, 750 m., March 1899 (Haensch).

Allied to *J. striata* Druce. In the ♂ the forewing has no distinct anal angle, the inner margin being convex, and forming one curve with the hindmargin: the hindwing has the costa strongly arched, and the apex bluntly pointed instead of well rounded as in the ♀.

36. **Josia longistria** spec. nov.

Forewing: brown-black, with an elongated central yellow stripe, starting at base from between submedian vein and subcostal, widening slightly to end of cell, where it is notched and narrowed, and ending in a point on vein 1 well before hindmargin; fringe grey-brown.

Hindwing: yellow, with the costa and hindmargin narrowly black, broader towards apex and before anal angle.

Underside like upper.

Head and thorax brown-black: abdomen paler, cinereous.

Expanse of wings: 44 mm.

1 ♀ from Baiza, E. Ecuador, January 1900 (Haensch).

37. **Josia vulturata** spec. nov.

Forewing: brown-black, with a large orange blotch in shape something like the head of a vulture, bounded above from near base to middle by the costal vein, whence the outside edge runs somewhat jagged obliquely outwards to two-thirds of vein 2, where it is shortly curved downwards, forming a beak, and then curves inwards to base of median vein; the subcostal vein shortly brown at base.

Hindwing: blacker; the orange area confined to a small blotch close to base between inner margin and median vein, running out along the latter for one-third of wing.

Underside similar, but the space below the orange patch on forewing shot with deep purple.

Head, thorax, abdomen, legs, and antennae all black.

In the ♀ the orange patch of forewing is larger in every way; starting from beyond middle of costa, curving at vein 3, and running inwards farther from the median, and in the hindwing running to the end of cell, of which it fills up the lower half.

Expanse of wings: 48 mm.

1 ♂ Upper River Toro, La Merced, Peru, August, September 1901, 3000 m. (Simons), *type*; 1 ♂, 1 ♀, Chanchamayo, January—August 1901 (Hoffmanns). In the orange marking of forewing it is a remarkable mimic of *Dirna volitans* from the same locality.

38. **Phaeochlaena bialbifera** spec. nov.

Forewing: black-brown; the veins yellow; a broad white band from before middle of costa to vein 1 a little before anal angle; a small yellow spot close before hindmargin above vein 5; fringe black. In the ♂ the band is only half as wide, much constricted on the subcostal vein, and reaches submedian fold only, and the yellow dot is hardly shown.

Hindwing: with the centre white, rounded at extremity towards middle of hindmargin and at base embracing two-thirds of costa: the margins black, the inner broadest, the hindmargin at middle narrowest.

Underside like upper; base of forewing streaked with white, the hindwing with the whole inner margin white.

Face and palpi black above, white beneath; shoulders and patagia black, varied with yellowish at their base; abdomen dark cinereous above, white below.

Expanse of wings: 30 mm.

1 ♂, 1 ♀, from Rosario, St. Inez, E. Ecuador, 1250 m., November 1899 (Haensch).

39. **Polypoetes picaria** spec. nov.

Forewing: black, all the veins yellowish; longitudinal semihyaline white streaks in basal half of cell and below median vein, this latter reaching beyond half the length of wing and sharply bilobed at extremity; a subquadrate blotch beyond cell, its outside edge curved, and a small spot before apex, both white; the space beyond each of the longitudinal streaks and all the margins deeper black.

Hindwing: smoky blackish, the hindmargin deep black; an oblong white blotch beyond cell preceding the dark marginal border; fringe, as on forewing, black.

Underside the same, but the white blotches duller: in the hindwing the smoky black of the upperside is smoky white.

Head, thorax, and abdomen black, abdomen whitish beneath; basal joint of palpi and front edge of patagia bright orange.

Expanse of wings: 26 mm.

2 ♂♂, 1 ♀, from Marcapata, E. Peru, 10,800 ft. (Ockenden).

40. **Scea semifulva** spec. nov.

Forewing: dull orange in basal half, dusted with very fine narrow dark scales; costa, inner margin, veins, and outer half of wing purplish grey.

Hindwing: uniform purplish-grey; fringes of both wings concolorous.

Underside similar, but the veins not dark.

Head, thorax, abdomen, and legs, all purplish grey.

Expanse of wings: 39 mm.

2 ♀♀ from Guaranda, E. Ecuador, May 1899 (Haensch).

Nearest to *eleonica* Druce, from which it is distinguished by the purplish grey coloration, which reaches to middle of costa and to two-thirds of inner margin.

41. **Stenoplastis spumata** spec. nov.

Like *S. aurantica* Druce, but with an aggregation of white scales beyond cell and along submedian fold, hardly forming a spot or blotch.

The hindmargin of hindwing from apex to middle straight, and appearing bluntly angled at vein 4.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

This seems to be a form intermediate between *aurantica* Druce and *cingulina* Druce.

Subfamily GEOMETRINAE.

42. **Aplodes punctata** spec. nov.

Forewing: pale yellowish green, with the fringe green; the lines marked by white dots on the veins; first at one-fourth, the second at five-sixths; no cell-spot.

Hindwing: the same, but with a slightly darker green cell-spot.

Underside pale whitish green, the forewing flushed with pale yellowish rufous.

Face and palpi reddish brown; vertex and shaft of antennae white; thorax and abdomen pale green.

Expanse of wings: 20 mm.

2 ♂♂ from Upper Park, Jamaica.

Hindwing broad, the hindmargin rounded, but with a slight bend, not an angle, in the middle; frenulum very small and fine.

The second of these two examples is grey or green, with the lines faintly paler between the dots, and edged conversely with deeper green. These insects were labelled *N. paularia* Moeschl., but Moeschler, in his description of his insect, says the wings are green without any markings, and the head green.

43. **Comibaena flavidisca** spec. nov.

Forewing: deep green above the median and vein 3, below these smoky brick-red, dusted with blackish, and with traces of black markings; these are a small blotch at base, a thick line at one-third, concave inwards, a similar line at two-thirds, concave outwards and emitting outwards two strong teeth, and a blotch at anal angle; cell-spot fine, blackish; fringe with basal half deep green, apical half paler, from anal angle to vein 3 blackish; a black dash at apex.

Hindwing: pale golden yellow; the base brick-red with an outwardly concave dark edge; just before middle a velvety black dentate-lunulate line, joined to basal patch by dark scales along the veins and below the median edged with brick-red scales; a strongly dentate postmedian line followed by a pale snuff-coloured belt, and below the median also preceded by a smoky brick-red cloud; marginal border blackish mixed with vinous red scales; fringe blackish with pale apices.

Underside of forewing like upper, but the green paler, the costal edge fuscous; inner margin grey and black, without any red scales: hindwing smoky white with greenish black marginal border, the markings of upperside showing through; fringe as above.

Palpi ochreous; face and vertex snow-white; collar yellow (perhaps faded); patagia green; thorax and abdomen yellow ochreous; forelegs whitish, fuscous in front.

Expanse of wings: 27 mm.

3 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

Manifestly allied to *lepidaria* Moeschl. from Surinam and *subscripta* Warr. from Venezuela, with each of which it agrees in certain points; the white black-bordered underside of hindwing will serve at once to distinguish it.

44. **Drucia latimargo** spec. nov.

Forewing: very pale green, semi-transparent; ochreous along costa, with the costal edge brownish; a small dark cell-spot; hindmargin red-brown (pale red with dark brown striae becoming confluent); the markings as in *asmura* Druce, but exaggerated, much broader throughout, the green sinus in middle narrower and not approximating to hindmargin, the blotch at anal angle reaching nearly to middle of inner margin and touching lower angle of cell; fringe yellowish, mottled with red.

Hindwing: with hindmargin similarly broadened, the red-brown edged with yellow, and the narrow sinus wholly yellow.

Underside whitish green, with blurred red blotches.

Face and palpi dull red; vertex, thorax, and patagia green; abdomen red-brown, with shining dorsal crests.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, December 1901, wet season (Ockenden).

45. **Gelasma stigmatica** spec. nov.

Forewing: dull grey-green; two waved darker lines, the first from one-fourth of costa to one-third of inner margin, the outer at three-fourths projecting on

veins 3 and 4, then incurved; space between the lines darker green, especially towards the lines, which are outwardly edged with paler; costa strigulated with black-brown; a black-brown lunulate marginal line; fringe green; cell-spot very large, black-brown.

Hindwing: similar; the cell-spot still larger, elongate.

Underside pale green with the cell-spot showing through.

Head, thorax, and abdomen green; vertex white.

Expanse of wings: 30 mm.

Several ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

Hyalorrhoë gen. nov.

Allied to *Prohydata* Schaus, the costal vein of hindwing not anastomosing with subcostal, except at a point.

Forewing: with hindmargin oblique, faintly curved.

Hindwing: with hindmargin strongly crenulate, with a deeper sinus between veins 4 and 6.

Antennae of ♂ bipectinate: of ♀ thickened, with short, close, clavate teeth; palpi slender, porrect, the terminal segment bent downwards, in ♀ very long, longer than second segment.

Tongue and frenulum invisible.

Neuration: forewing, cell more than half as long as wing; discocellular concave; first median nervule at five-eighths, second at seven-eighths, where the median is inbent; vein 5 from above middle of discocellular; 6 stalked with 7, 10, 8, 9; 11 anastomosing strongly with 12; hindwing, costal touching subcostal at a point; 6, 7 long-stalked.

Type: *Hyalorrhoë stigmatica* spec. nov.

Hydata malina Butler also belongs here.

46. **Hyalorrhoë stigmatica** spec. nov.

Forewing: very pale whitish green, with the costa, lines, and cell-spot darker; basal line thick, waved; antemedian, postmedian, and submarginal all wavy and dentate; cell-spot very much darker and large; fringe pale green.

Hindwing: with antemedian line and a small dark cell-spot; the rest as in forewing.

Underside whitish, with the darker markings, especially the cell-spot of forewing, showing through.

Thorax, face, and abdomen pale green; vertex and shaft of antennae white.

Expanse of wings: 24 mm.

1 ♀ from Costa Rica, 1500 m. (Marc de Mathan).

47. **Lissochlora flavilimes** spec. nov.

Forewing: apple-green: the costa finely pale; fringe lemon-yellow, with a marginal band of lemon-yellow of the same width as the fringe, the limit of the green area marked with a few reddish scales towards anal angle; a pink spot at apex.

Hindwing: the same, but without any pink apical spot; the green area distinctly edged with purplish.

Underside very pale whitish green, the forewing with a ruddy tinge.

Face and palpi whitish green, edged with reddish; vertex and base of antennae snow-white; a fine red line between antennae; thorax and abdomen greenish, forelegs reddish in front.

Expanse of wings: 19 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

A much-worn ♀, apparently of this species, from the same locality, in M. Dognin's collection, expands 30 mm., and has a distinct dark cell-spot in each wing.

Lophochorista gen. nov.

Forewing: costa straight, becoming convex towards apex, which is blunt and rectangular; hindmargin bent at vein 4.

Hindwing: with hindmargin crenulate, and more deeply sinuate between veins 4 and 6, which end in more prominent teeth.

Antennae of ♂ bipectinate for two-thirds, the outer series of pectinations twice the length of the inner; palpi porrect, but quite short, not reaching in front of face; tongue weak; frenulum present; hindtibia flattened, and fringed, with two spurs.

Neuration: forewing, cell nearly half as long as wing; discocellular sinuous, vertical above, then incurved and oblique below; first median at three-fourths, second and third together from lower end of cell; 5 from above the middle of discocellular; 6 stalked with 10, 7, 8, 9; 11 free: hindwing, costal and subcostal anastomosing along second fourth of cell; 6, 7 long stalked: first median at four-fifths.

Thorax and abdomen rough-scaled; metathorax thickly tufted: first four dorsal segments with rough curled tufts. Scaling fine and sparse: wings semi-transparent.

Type: *Lophochorista calliope* Druce (*Rachospila*).

Allied to *Hydata*: distinguished by the crests of dorsum.

48. **Melochlora intermedia** spec. nov.

Agrees with *M. trimaculata* Warr. in having the lines deep green, not brown, as in *M. neis* Druce; the bluish lustre before the first line and after the second and along the inner margin is also present; fringe with a black spot at apex; but the hindwing is wholly without the three black spots of *trimaculata*; on the underside, the dark clouding is like that of *M. neis* Druce rather than that of *trimaculata*; the submarginal and innermarginal black shades coalescing into a rectangular blotch, and the hindwing being crossed by two broad distinct dark bands; the green of the hindwing is much paler, while the forewing is brighter.

Expanse of wings: 39 mm.

1 ♂. Peru. The angulation in the middle of the hindmargin of forewing is very slight; herein also it agrees better with *neis* than *trimaculata*.

49. **Miantonota decorata** spec. nov.

Forewing: dull green: costa paler, the costal edge narrowly white, shortly underlined with reddish at base and before apex; lines whitish, very fine and slender: first from one-fifth of costa to one-fourth of inner margin, angled on

median vein ; second from one-third of costa to three-fifths of inner margin, nearly parallel to hindmargin ; both lines faint below costa, slightly waved towards inner margin, sometimes with faint teeth at the veins ; a broad deep pink marginal line, interrupted by pale spots at the ends of the veins ; fringe yellowish, with distinct fan-shaped chequerings of pink beyond veins : cell-spot small and dark.

Hindwing : with both lines curved, the outer distinctly bent in middle : cell-spot minute ; fringe and marginal line as in forewing.

Underside paler green ; costa of forewing yellow ; the pink and yellow tints of the margin duller.

Face and palpi tinged with reddish ; face with a white lateral spot on each side at middle ; vertex and fillet white, the vertex behind with a fine red line ; antennae white with a reddish tinge ; shoulders, patagia, and thorax green, like wings ; abdomen like face, ochreous strongly rufous-tinged, the segments deeper rufous in front and at sides, the basal segments therefore with obscure paler triangular blotches ; forelegs reddish in front.

Expanse of wings : 32 mm.

1 ♂ from Huatuxco, Vera Cruz.

50. **Neocrasis heterograpta** spec. nov.

Forewing : apple-green, passing into yellow-green before a dull chocolate-brown marginal shade ; inner and outer lines very fine, white ; the inner curved from one-fifth of costa to one-third of inner margin, the outer from two-thirds of costa, bent on vein 6, then obliquely sinuous inwards to three-fifths of inner margin, approximating to inner line ; the included space below the median vein filled up with white scales ; marginal line chocolate-brown, preceded below middle by an ashy brown shade ; fringe with basal half brown, outer half white, spotted with brown beyond veins 7, 4, and 3.

Hindwing : similar ; the space between the two white lines narrower at costa and filled with white scales in costal third only ; veins 5, 6, and 7 narrowly white ; marginal line preceded by the ashy brown shade throughout the wing.

Underside whitish, only the costal half of forewing being green ; fringe as above, preceded by a slight cloud only in upper half of each wing, below the middle by indistinct lunules.

Face, palpi, vertex, and antennae dull reddish, face and palpi below ochreous ; shoulders and patagia bright green ; thorax and abdomen yellowish green passing into ochreous ; the second and fifth segments of abdomen marked with ashy brown.

Expanse of wings : 32 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The character of the markings and scaling is decidedly different from that of *N. obscurata* Warr., the type of the genus, and vein 6 of hindwings is toothed ; but it may be referred here for the present.

Neonemoria gen. nov

Forewing : elongate ; costa straight, becoming convex only before apex, which is produced but depressed ; hindmargin oblique, hardly curved.

Hindwing : with well rounded hindmargin.

Antennae (♂) subserrate, ciliated, the segments with angular edges; palpi porrect, short, not reaching beyond face, third segment small; tongue and frenulum present; hindtibia of ♂ dilated, with pencil of hairs internally and a process externally, without spurs.

Neuration: forewing, cell half as long as wing; discocellular nearly vertical, somewhat more oblique below; first median nervule at two-thirds, second at eleven-twelfths, where the median vein is inflected; lower radial from a little above middle of discocellular; upper from upper angle of cell, the subcostal vein deflected from the origin of veins 7, 8, 9; 10 close before them, 11 at one-half; 10 anastomosing with 11 and again with 8, 9, forming a long double areole; hindwing, costal merely touching subcostal near base; 6 and 7 stalked; the rest as in forewings.

Type: *Neonemoria plana* spec. nov.

I cannot fairly refer this species to any existing genus.

51. **Neonemoria plana** spec. nov.

Forewing: very pale green (perhaps faded); fringe concolorous.

Hindwing: the same; no markings on either wing.

Underside yellower; the costa of forewing broadly rosy to apex.

Face and palpi rosy above, pale green below; vertex white; collar red; thorax and abdomen concolorous with wings; antennae reddish beneath; forelegs reddish in front.

Expanse of wings: 22 mm.

1 ♂ from Chimate, Bolivia, September 1900 (Simons).

52. **Oospila atroviridis** spec. nov

Forewing: semi-transparent grass-green; the costa narrowly black-brown; cell-spot obliquely oval, black-brown, on the lower half of discocellular; a broad black-brown marginal border, round-edged between the veins, starting from vein 7, narrowed between veins 3 and 4, and enclosing there on hindmargin a green lunule; marginal line black-brown; fringe rather paler, but dark beyond the veins; the dark margin is very finely overlaid with pale scales.

Hindwing: with the marginal border not so broad, and from above vein 4 to below vein 3 obsolete; a small black-brown cell-spot at lower end of discocellular, and a whitish raised one at upper end; fringe as in forewing.

Underside opalescent whitish green, the forewing tinged with dull rosy; the black margin with diffuse edges; cell-spots black.

Face, palpi, antennae, and legs dull vinous red; vertex, thorax, and patagia green; abdomen black and vinous, with three metallic-tinged raised crests; abdomen beneath yellowish, tinged with red.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Paraplodes gen. nov.

Forewing: narrower and more elongate than in *Aplodes*; costa curved throughout; hindmargin obliquely curved.

Hindwing: narrow; hindmargin curved; inner margin long; anal angle well marked; apical angle rounded.

Antennae (♀) broken, but thickened at base; palpi long, as in *Synchlora*, the third segment subspatulate, as long as second; no tongue or frenulum visible; legs long and slender; hindtibiae with terminal spurs only.

Neuration: forewing, cell half as long as wing: discocellular vertical above, oblique below; first median nervule at two-thirds, second at eight-ninths, the median nervule thence inflected; lower radial above middle of discocellular; upper from upper end of cell; 7, 10, 9, 8, long-stalked from end of cell; 11 anastomosing with 12; hindwing, costal anastomosing strongly with subcostal throughout the middle half of cell; 6, 7 on very long stalk; first median at three-fourths, second at eleven-twelfths.

Type: *Paraplodes aurata* spec. nov.

The genus agrees with *Aplodes* and *Synchlora* in the anastomosis of the costal and subcostal of hindwings, but differs in neuration and the spurs of the hindtibiae.

The type species is without markings of any kind.

53. **Paraplodes aurata** spec. nov.

Forewing: yellowish green, without any markings, fringe concolorous.

Hindwing: the same.

Underside similar.

Face, palpi, vertex, thorax, and abdomen concolorous; fillet and base of antennae snow-white.

Expanse of wings: 16 mm.

1 ♀ from Pambilar, Ecuador (Flemming & Miketta).

54. **Racheospila dependens** spec. nov.

Forewing: pale green; the markings dull brown-red; costal streak broad, with lower edge diffuse, costal edge from near base to before apex snow-white; cell-spot large, oval, joined to the costal streak; a slight projection before it and a tooth at three-fourths indicate the commencement of two faint dentate cross-lines, slightly paler than the ground colour and edged narrowly with deeper; marginal border formed of contiguous lunules with well-defined edge, that at anal angle swollen into a blotch; fringe rufous, darker beyond veins.

Hindwing: with large cell-spot and marginal border swollen subapically; the two transverse lines distinct, the inner margin marked diffusedly with red between them.

Underside pale green, with all red markings less defined; base of fringe greenish.

Palpi externally and upper half of face bright red, lower half of face green (or green mixed with red); vertex and antennae white; collar red; shoulders and patagia green; thorax and abdomen red, the latter with three white dorsal spots.

Expanse of wings: ♂, 22 mm.; ♀, 26 mm.

1 ♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1904, wet season (Ockenden).

Distinguished from *leucocraria* Snell. by the absence of any yellow edging, by the large cell-spots, and in particular by the absence of the large white metathoracic blotch.

55. **Racheospila molliculata** spec. nov.

Forewing: semi-transparent, pale dull green, with all markings dark or bright red—viz., the costa, cell-spot, two cross-lines, and the marginal line; the lines marked by vein-spots, being the teeth of the denticulate lines; cell-spot large; fringe whitish.

Hindwing: the same.

Underside glossy pale green; cell-spot, outer and marginal lines, and base of costa ferruginous.

Face and palpi reddish above, paler beneath; vertex white; collar reddish; thorax green; abdomen with the dorsum reddish, a large white spot on the second and fourth segments; antennae reddish-tinged.

Expanse of wings: 26 mm.

7 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Nearest to *R. purpureoviridis* Warr., but the wings are still more transparent, and the markings rust-coloured instead of violet.

56. **Racheospila promontoria** spec. nov.

Forewing: bright green; the marginal blotches flesh-colour, edged with red-brown: a large semicircular apical blotch nearly reaching vein 4, containing some brown dashes and speckles: a large irregular blotch at anal angle, narrow from vein 3 to 2, reaching along inner margin to middle and truncated on median vein between veins 2 and 3, contiguous to a large oval grey-brown discal spot; on the inner margin the centre of this blotch is separated from the outside portions by brown curved shades, the inner being the termination of the second line; inner line close to base and outer line at two-thirds, darker green, dentate-lunulate, indistinct, but each marked below costa by some red-brown scales; costa pale yellowish, the edge white; marginal line red-brown, subcrenulate; fringe flesh-colour.

Hindwing: with the apical blotch sinuous, reaching from middle of costa nearly to vein 4; the anal blotch flatter above, being limited by vein 2, not touching the discal spot, which is smaller, and continued as a narrow dark-brown shade along inner margin to base, where there is a brown spot; fringe and marginal line as in forewing.

Underside whitish green, with only the apical blotches marked, that of the forewing distinct, broadly red-brown, whitish towards apex only, that of the hindwing indistinct; cell-spot of forewing brown; costa yellowish.

Face, palpi, and front of forelegs dark brown; vertex and shaft of antennae white; collar and shoulders yellowish; patagia green; thorax and abdomen flesh-colour; the latter with white patches on second and fourth segments, and smaller pale marks on third and fifth: abdomen beneath, legs, and pectus whitish.

Expanse of wings: 35 mm.

4 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

The palpi are somewhat abnormal, being roughly and thickly scaled, and short, the basal segment white beneath, the third hidden in the hairy scales of the second, which are red-brown.

57. **Tachyphyle subaurata** spec. nov.

Forewing: dull olive-green, the costal edge beyond middle bluish white; a very obscure darker green curved line from one-fourth of costa to one-third of inner margin; a straight oblique line from three-fourths of inner margin towards apex, outwardly edged with bluish; fringe whitish green, with a dark dash at apex; cell-spot small, black.

Hindwing: with the oblique line continued across wing a little beyond middle; cell-spot black; fringe whitish green.

Underside paler green, the cell and subcostal area beyond deep yellow, the veins beyond cell also yellow; hindwing with a dark blotch from lower end of cell to vein 1.

Face, vertex, and palpi white, sides of face and tips of palpi with reddish scales; thorax and patagia green; abdomen yellowish.

Expanse of wings: 32 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, January 1902, wet season (Ockenden).

Distinguished from its allies by the markings of the underside.

SUBFAMILY STERRHINAE.

58. **Anisodes aurantiata** spec. nov.

Forewing: deep yellow, with orange-red speckles and striae, becoming confluent in places; basal and outer line marked by black dots on veins; the first near base, marked by dots on the folds as well as the veins; the outer from four-fifths of costa to three-fourths of inner margin, curved parallel to hindmargin, the dots on the folds displaced somewhat basewards; cell-spot minute, snow-white, in a black ring; median shade thick and diffuse, formed of densely aggregated orange-red scales, and traversed by a fine dark grey zigzag line, sinuous, from three-fifths of costa to middle of inner margin; submarginal line indicated by a deeper shade of orange-red preceding it, darker, being mixed with blackish scales, beyond cell and between veins 2 and 3; a row of distinct black marginal spots; fringe deep yellow, spotted with orange-red.

Hindwing: like forewing; the cell-spot darker, with grey centre.

Underside yellow, with the speckling and lines dull red.

Head, thorax, and abdomen deep yellow varied with orange-red; abdomen below and legs yellowish ochreous; hindtibia with a yellow tuft of hairs from base, and with terminal spurs only.

Expanse of wings: 31 mm.

2 ♂♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

A brighter and gayer insect than usual in the genus. The ♀ shows less of the yellow ground colour, being more thickly striated with orange-red, and in one case suffused with brown.

59. **Anisodes bipunctata** spec. nov.

Closely allied to *A. nebuligera* Butler from the Amazons, but without any distinct dark cloud on the hindmargin of the wings, the forewing, however, being well marked, with the two black spots which in *nebuligera* precede the marginal cloud; the hindwing is likewise devoid of the large grey shade from

the base to beyond the middle of wing; cell-spots of both wings transversely linear: ochreous, dark-edged inwardly on forewing: silvery white, dark-edged outwardly on hindwing.

Face, palpi, and vertex dull brown above, paler below: thorax and basal segments of abdomen fuscous reddish: rest of abdomen paler grey.

Hindtibiae of ♂ with a single median and two terminal spurs.

Expanse of wings: 30 mm.; *nebuligera* Butler is rather larger.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

60. **Anisodes flavidiscata** spec. nov.

Forewing: dark brownish fawn-colour, striated and tinged with darker, with almost identical markings with *albipupillata* Warr.; but the large white cell-spot is black-edged.

Hindwing: cell-spot white, black-edged, with a disc of pale yellow raised scales surrounded externally by a crescent of black scales.

Underside rosy, paler in the hindwing, with the lines and cell-spots showing through.

Face and palpi dull reddish; fillet narrowly whitish; vertex, thorax, and abdomen like wings: abdomen laterally and beneath pale.

Expanse of wings: 35 mm.

1 ♂ from Huatuxco, Vera Cruz, *type*.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The ♀ is somewhat redder above and greyer beneath.

61. **Anisodes hieroglyphica** spec. nov.

Forewing: yellowish straw-colour, finely dusted with dark scales; the markings fine and concise, purplish black; the costa to near middle, a straight oblique line from three-fourths of costa to middle of inner margin, a slender outcurved line from costa just beyond it, a curved line on discocellular, vein 4 throughout, and the inner halves of veins 5 and 6, all purplish black; the discocellular beyond the black line and the centre of the streak at base of vein 4 are filled with lilac-grey scales; beyond the curved outer line are two short spurs, one below the other above vein 4; below the median this outer line is marked only by dark vein-points, like the inner line, which starts from a small projection half-way beneath the costal streak; marginal points very minute; fringe concolorous, except where cut by the purple line above vein 4.

Hindwing: in the main similar, but the oblique line of forewing is sharply angled outward on vein 5 and then passes, as it were, beneath the lines on vein 4 to middle of inner margin, an extra spur being thrown off from bottom of discocellular to one-fourth of inner margin: a short purplish streak at base; the streak on vein 4 forks before margin, and then runs out crescent-shaped on each side of the deep excision beyond cell into the fringe.

Underside speckled with purple; the cell-spots, the dots of the outer and marginal lines and the purple spots in fringe shown in both wings; the forewing also has a streak above vein 4 and the upper half of the oblique line purple, and the base of cell spotted with rosy purple.

Head, thorax, and abdomen straw-colour; palpi above and externally reddish; top of head dark; a ring behind vertex, centre of thorax, base of patagia, a lateral line on thorax, and a line across base of metathorax purple: abdomen beneath and legs straw-colour; antennae straw-colour, the shaft dotted with red.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

A remarkable-looking insect. The hindtibia has three spurs, as in *Pisaraca*.

62. **Anisodes imparistigma** spec. nov.

Forewing: pale stone-colour, dusted with olive-tinged grey and rufous scales; the costa darker, with olive-grey striations: the lines olive-tinged; first line at one-fourth, vertical, but curved outwards above and below the median vein, and marked by dark vein-dots: outer line lunulate-dentate at three-fourths, oblique to vein 6, vertical to 4, then incurved, marked by dots on the veins, and followed by an olive shade, which is more prominent beyond cell and on submedian fold, preceding a pale submarginal line: a row of dark spots just before the margin; fringe concolorous: cell-spot large, a brick-red annulus, with pale centre; it is followed by a sinuous diffuse olive median shade.

Hindwing: as forewing, but the cell-spot is much larger, round, and coal-black.

Underside greenish ochreous, with greenish grey striae, and both cell-spots distinct.

Palpi externally and face brown; vertex white; thorax and abdomen ochreous, speckled with olive.

Expanse of wings: 29 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The example described was probably much greener when fresh; the distinct cell-spots will serve to distinguish it.

63. **Anisodes magnidiscata** spec. nov.

Forewing: dull reddish fawn-colour, speckled with pale grey, especially along the veins; costal edge pale ochreous; the lines marked by shades slightly deeper than the ground colour; the median from two-thirds of costa, bent inwards beneath the cell-spot, which is of moderate size, greyish white, with darker edging: the outer line nearer hindmargin than usual, marked by dark vein-dashes tipped with grey externally; no distinct marginal spots: fringe concolorous.

Hindwing: like forewing, but without basal line, and the cell-spot a very large grey circle with faintly darker edge, and containing an inner dark grey ring.

Underside dull reddish, much paler in hindwing; forewing with costa fulvous-tinged; a white cell-spot, and reddish median shade and outer line; also slight reddish marginal lunules: hindwing with the same markings but fainter; the large discal spot only showing through.

Face and palpi externally dull dark reddish; vertex and antennae white; thorax and abdomen like wings; the anal segments and underside of abdomen

ochreous ; hind femur and basal half of tibia fringed with dull ochreous hairs ; the tibia with terminal spurs only.

Expanse of wings : 40 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons), *type* ; 1 ♂ from Chulumani, Bolivia, 2000 m., December, beginning of wet season (Simons).

64. **Anisodes mediolineata** spec. nov.

Forewing : pale wood-colour, densely speckled with black, and faintly tinged with vinous, the costal edge and fringe of inner and outer margins being bright vinous ; basal and outer lines marked by dark spots on veins, faintly connected in places by a thickening of the dark atoms, which do not form a distinct line ; first curved from one-fourth of costa to one-third of inner margin ; the outer at five-sixths, curving parallel to hindmargin ; median shade represented by a thick vinous brown line from two-thirds of costa to two-thirds of inner margin, faintly sinuate ; cell-spot hardly visible, formed of a few dark scales ; a row of minute dark marginal dots.

Hindwing : like forewing ; the median line a little curved ; cell-spot like that of forewing, sometimes with a few whitish scales intermixed.

Underside paler, the speckles and striations deep rosy ; base of costa of forewing broadly deep rosy ; outer line in both wings marked by dots ; a fine marginal line ; median shade very thick at costa of forewing, gradually thinning to inner margin of hindwing.

Head, thorax, and abdomen like wings ; palpi externally, upper half of face, antennal shaft, collar, and basal half of dorsum deep rosy ; anal segments of abdomen paler.

Expanse of wings : 44 mm.

7 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

Closely allied to *A. aspera* Warr. and *rhodostigma* Warr.

65. **Anisodes ochricomata** spec. nov.

Forewing : flesh-coloured ochreous, finely speckled with reddish atoms, which along the costa become purplish ; spots of the lines dull reddish, slightly connected by a grey shade ; basal line with spots on the folds as well as the veins ; a zigzag obscure grey median shade beyond the cell-spot, which is small and white within a dark ring ; submarginal line scarcely expressed, with obscure grey lunules preceding it ; marginal spots reddish between the veins, with minute dots at their ends ; fringe concolorous.

Hindwing : similar, without first line.

Underside very pale pinkish ochreous, with little speckling ; the outer and marginal line of points reddish.

Head, thorax, and abdomen like wings ; palpi externally rosy ; face dull brownish. Hind femur and tibia with a fringe of ochreous hairs ; the tibia with terminal spurs only.

Expanse of wings : 30 mm.

1 ♂ from Ouaca, Santa Marta, June—August (Engelke).

An inconspicuous-looking insect, but distinguished by the ochreous fringe of the hindleg.

66. **Anisodes pintada** ab. **punctulosa** nov.

This form differs from the type of *pintada* Dogn. in having all the vein-dots exaggerated, much larger and black-brown; the basal line showing six spots, one on each fold, and one subcostal nearer the base, in addition to the three on the veins; moreover, the lunular shade preceding the submarginal line has the apex of the lunules strongly black-brown, except between veins 3 and 4, and 6 and 7.

The underside remains typical.

1 ♂ from Chulumani, Bolivia, 2000 m., December, beginning of the wet season (Simons).

I have also seen ♂♂ of this form from Popayan, Colombia.

67. **Anisodes rhodostigma** spec. nov.

Exceedingly like *A. aspera* Warr., from Popayan, Colombia, but with entirely different cell-spots. In *aspera* these are pure white, edged with red, small in the forewings, large and distinct in the hindwings. In *rhodostigma* the cell-mark of forewings is a rosy point, and in the hindwings a red oval with the centre obscurely paler. As in *aspera*, the wings above have no marginal line, but beneath a continuous row of marginal lunules.

Expanse of wings: 48 mm.

3 ♂♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

68. **Anisodes subaenescens** spec. nov.

Forewing: deep ferruginous brown; the costa and lines deeper; first at one-fourth, curved, marked obscurely with darker spots on veins on its inner edge; median shade outcurved above middle round the cell-spot which is minute, but snow-white; outer line at three-fourths, marked on its outer edge by blackish spots on veins; submarginal line very obscure, slightly paler and preceded by a darker shade; marginal spots obscurely dark ferruginous; fringe deep ferruginous in basal half, the apical half paler; veins throughout olive-grey, speckled with dark.

Hindwing: similar, but without basal shade; the minute white cell-spot with a dark cloud above it.

Underside of forewing dull red, thickly striated with fuscous; the lines dark fuscous; cell-spot whitish, dark-edged; hindwing brassy yellowish, redder towards hindmargin, and striated with fuscous along costa and hindmargin; the lines as in forewing.

Face, palpi above, and collar deep brown-red; antennae black; vertex, thorax, and basal segment of abdomen bright reddish fulvous; abdomen dark fuscous, with reddish scales along middle of dorsum; abdomen beneath like base of hindwings; hind femur and tibia tinged with reddish grey hairs.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

This species comes near *A. ferruginata* Warr., from Paramba, Ecuador, but is smaller and darker.

69. **Anisodes torsivena** spec. nov.

Forewing: mouse-colour; the lines marked by black spots: the first close to base, with spots on the folds as well as the veins, connected by a very fine line; outer line near hindmargin, indented beyond cell and on submedian fold, the spots similarly connected; black marginal spots between veins, and dots at their ends; fringe paler, slightly reddish: an indistinct central shade: cell-spot white: costa slightly striated with dark.

Hindwing: like forewing; the basal line present; cell-spot white with a black ring.

Underside of forewing vinous, the inner margin white and glossy; cell-spot and outer line marked: hindwing paler, with similar markings.

Head, thorax, and abdomen like wings; palpi externally bright rosy; anal segments and underside of abdomen ochreous

Expanse of wings: 22 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

The neuration of this insect is abnormal; cell about half the length of wing and wide; the median and subcostal divergent at base; discocellular vertical; veins 2, 3, from near together at two-thirds; veins 5, 6, and a fold above cell bent downwards beyond it, somewhat as in the Old-World genus *Mesotrophe*: the hindmargin slightly excised between 4 and 6; veins 7, 8, 9, 10, 11 stalked from middle of cell; hindwing normal.

70. **Calyptocome conversa** spec. nov.

Forewing: pale olive ochreous; the lines rosy, diffuse: a patch of rosy scales at base, a curved basal and median rosy shade, these two close together, and with the basal patch giving a reddish tinge to the whole basal half of wing; a narrow outer and broader submarginal shade, both sinuous, the latter nearly touching hindmargin below the middle; marginal line rosy; fringe brownish olive and rosy.

Hindwing: with a basal spot of red scales and three fasciae, antemedian, postmedian, and submarginal; marginal line and fringe as in forewing.

Underside of forewing suffused with rosy, except inner margin, which, like the whole of the hindwing, is whitish.

Face, palpi, forelegs, and antennae red; thorax and abdomen olive ochreous, dusted with dull red scales; antennae above annulated, reddish and pale ochreous.

Expanse of wings: 15 mm.

1 ♂ from Bartica, British Guiana, May 1901.

This species is the converse of *phorcaria* Guen., *roseolira* Warr., and others, the ground colour here being olive with the bands rosy, instead of the ground being purplish with the bands pale.

71. **Calyptocome fragmentata** spec. nov.

Forewing: pale stone-colour, dusted with fine black scales; the costa deep rosy: wings crossed by three interrupted broad olive-ochreous bands, edged with black scales: one near base, obscure; the postmedian and submarginal both interrupted between veins 4 and 6, and again on submedian fold, and so consisting each of three quadrate laterally dark-edged blotches—at costa, below median, and

above inner margin; cell-spot a triangular space of same colour touching costa and placed in an obscure median shade; marginal line deep purple; fringe stone-colour, tinged with rosy.

Hindwing: with median, postmedian, and submarginal similarly coloured bands, but narrower; fringe and marginal line as in forewing.

Underside pale greenish white, costal half of forewing suffused with rosy.

Face, vertex, palpi, antennae, and front of forelegs deep red; thorax and abdomen like wings.

Expanse of wings: 18 mm.

2 ♀♀ from Bartica, British Guiana, May 1901.

72. **Calyptocome inornata** spec. nov.

Forewing: pale greenish ochreous, dusted in parts with dark scales; a dark cell-spot, a very indistinct, interrupted, brown subterminal line, and a row of black marginal lunules; fringe concolorous.

Hindwing: the same.

Underside flushed throughout, especially in forewing, with reddish; the markings reddish, cell-spots, outer lines, and marginal lunules.

Face and palpi black-brown; vertex white; thorax and abdomen like wings.

Expanse of wings: 24 mm.

1 ♀ from Suapure, Caura R., Venezuela, October 1900 (Klages).

The insect differs much in outward appearance from the other species of the genus, but as it agrees with the ♀♀ of the genus in having a single middle spur on the hindtibiae I place it here for the present. I have seen a ♂ from the same locality, which at the time I passed over as an abnormally coloured and little marked example of *C. uniformata* Warr.

73. **Craspedia atridiscata** spec. nov.

Forewing: pale grey, washed with flesh-colour, and dusted with black atoms; the lines blackish, but somewhat ill-defined; first from one-sixth of costa, outcurved above median and marked by black dots on subcostal and median veins, then strongly oblique to near base; median shade broad, dark grey, from two-thirds of costa, outcurved above, then oblique to middle of inner margin; outer line at five-sixths, fine, parallel to median shade, and marked by black points on veins, reaching inner margin at three-fourths; followed by an obscure darker shade; a series of marginal dark dots; a triangular grey cloud on hindmargin below apex, produced obliquely across outer line to join median shade beyond cell; cell-spot a small black ring with white centre; fringe worn.

Hindwing: basal half whitish, without flesh-coloured tint; a straight black antemedian, and slightly curved median line; between them a large oval black cell-spot with pale central dot; the rest as in forewing.

Underside dull flesh-coloured grey, speckled with darker in forewing, much paler in hindwing; cell-spots distinct; the lines indicated, but obscurely.

Face and palpi black-brown; vertex, thorax, and abdomen flesh-coloured grey; front of collar dark grey; segmental rings of abdomen blackish.

Expanse of wings: 30 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., December, wet season (Simons).

Not nearly allied to any known *Craspedia*.

74. **Craspedia conduplicata** spec. nov.

Forewing: chalk-white, dusted sparsely with coarse black atoms; the costal area with fine fuscous speckling; the lines black, lunulate-dentate, and all double; outer line at two-thirds, the two arms diverging towards costa, the outer marked by two dark wedge-shaped marks on veins 6, 7; submarginal line with the outer arm close to margin and somewhat obscured; marginal line black, swollen into black triangles between the veins; fringe white. The basal half seems to have lost its markings; but from traces along inner margin I am led to believe that there is a double inner line at one-third, and probably a black cell-spot.

Hindwing: with the outer lines as in forewing; the branches of the median line farther apart, the inner one semicircularly curved inwards and embracing the distinct black cell-spot.

Underside white, tinged with dull grey towards base and costa of forewing; the markings showing through only.

Face and palpi dark brown above, whitish below; collar light brown; vertex white; thorax and abdomen white with coarse dark speckles.

Expanse of wings: 27 mm.

1 ♂ from San Ernesto, Bolivia, 1000 m., August, September 1900 (Simons).

Distinguished from *eburneata* Guen. and its allies by the much larger size.

75. **Craspedia deaurata** spec. nov.

Forewing: dull greyish yellow; markings very obscure; traces of a curved line near base, an oblique slightly deeper yellow shade beyond middle, and a very fine denticulated brownish outer line; fringe concolorous; cell-spot oval, brown, distinct.

Hindwing: the same.

Underside dull yellow; costa of forewing dull reddish near base only; a dark marginal line to both wings; cell-spots obsolete.

Face and palpi black-brown; vertex pale; thorax and abdomen dull yellow.

Expanse of wings: 16 mm.

1 ♂ from Salidero, N.W. Ecuador, 350 ft., February 1901 (Flemming and Miketta).

Shorter and broader in the wing than *C. rasa* Warr., and quite different in colour; antennae with long fascicles of cilia.

76. **Craspedia dorsinigrata** spec. nov.

Forewing: ochreous, finely black-speckled; the lines pale brownish, diffuse and broad; first line obscure, curved at one-fourth; median shade very broad, oblique from before middle of inner margin towards apex, obsolete above vein 6; exterior line very fine, touching the inner submarginal shade and marked by distinct black spots on the veins; marginal dots black; cell-spot blackish; fringe concolorous.

Hindwing: with the shade antemedian, preceding the cell-spot; outer line well separated from submarginal.

Underside paler, with the cell-spots and outer line distinct; costal half of forewing grey-tinged.

Face and palpi brown above, ochreous below; vertex whitish; collar brown;

thorax and abdomen like wings: abdomen in the ♂ with five black spots on dorsum.

Expanse of wings: 36 mm.

2 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Wings narrow and elongate; hindwings with distinct tooth at middle of hindmargin, convex above, concave below. Like *naparíata* Gnen., but larger.

77. **Craspedia internexata** spec. nov.

Forewing: bone-colour, with slight blackish dusting; the markings ochraceous; basal line obscure, bent below costa, then oblique; median shade from below costa at two-thirds to middle of inner margin, preceded by a distinct black cell-spot; the exterior line and the inner of the two subterminal shades both lunulate-dentate and coalescing to form a fascia, insinuate beyond cell and in submedian interval, connected below costa and below median by ochreous streaks with the median shade; marginal area ochreous, leaving the submarginal line broad and well marked, consisting of irregular lunate patches; marginal spots black, distinct, each preceded by a small pale space; fringe bone-colour.

Hindwing: with the median shade of forewing produced as a straight ochreous antemedian band, followed by the black cell-spot; the rest as in forewing; the band formed by the two connected lines much swollen towards costa.

Underside paler; cell-spots and marginal spots in both wings; the fascia shown only in the forewing, fuscous-tinged at inner margin.

Face, vertex, thorax, and abdomen all pale; palpi externally and front of forelegs dark fuscous.

Expanse of wings: 21 mm.

1 ♀ from Salidero, N.W. Ecuador, 350 ft., February 1901 (Flemming and Miketta).

This seems distinct from the other species with white face; the hindmargin of hindwing is very visibly angled at middle, and crenulate on each side.

78. **Craspedia trias** spec. nov., and ab. **tincta** nov.

Forewing: pale ochreous, somewhat thickly dusted with black atoms; the lines ochraceous; first at one-fourth, outcurved to the submedian fold, then vertical; median parallel to it, outcurved round the black cell-spot; outer line at quite three-fourths, oblique outwards to vein 6, there acutely angled and obliquely incurved to 4, where, after a blunter angle, it is again oblique inwards, dentate-lunulate to inner margin; the two submarginal shades quite narrow, and irregular, the inner one approaching outer line at 6, the outer running close to hindmargin; marginal dark dots small; fringe ochreous, without dots.

Hindwing: similar, but without basal line, the median line antemedian.

Underside pale ochreous, dusted with grey in forewing: cell-spots distinct, black; outer line of forewing only plain.

Head, face, thorax, and abdomen all ochreous, the last dusted with dark scales: palpi externally and front of forelegs dark fuscous.

Expanse of wings: 22 mm.

Very much like *C. approbata* Warr., with which and *atomaria* Warr., it agrees in the pale face; but distinguished by the course and shape of the outer line.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons), *type*; 1 ♀ from Bartica, British Guiana, May 1901, and 1 ♀, Bulim, N.W. Ecuador, 160 ft., January 1901 (Flemming & Miketta).

In this type form the lines are clear and distinct, being deeper coloured than the pale ochreous ground. In a second ♂, however, from R. Inambari, E. Peru, 1000 m., July 1900, rainy season (Simons), which may be called ab. *tincta*, this is not the case, as the whole surface of the wings is suffused with the deeper tint, to the obliteration of the lines, except the submarginal, which is of the usual pale ochreous tint; in this form the space between outer and submarginal lines beyond cell and on submedian fold is filled up with a patch of brownish scales, and the marginal dots are larger.

79. **Craspedia trygodata** spec. nov.

Forewing: pale stone-grey, dusted with olive-green scales; these are especially thick along costa and hindmargin; the lines dark olive-green; first thick, from one-fourth of costa, bent outwards in cell before the distinct black cell-spot, then oblique to near base of inner margin; median line fine, dentate-lunulate, from two-thirds of costa to before middle of inner margin, bent outwards between veins 6 and 3; outer line at five-sixths, close to margin, lunulate-dentate, insinuate at costa, beyond cell, and in submedian interval, and in the sinuses marked thicker, closely followed by an olive shade, most conspicuous in the sinuses; dark green marginal spots between the veins and minute dots beyond the veins in the fringe, which is concolorous.

Hindwing: the same, without basal line.

Underside paler, subiridescent; forewing tinged with rosy-grey; the external markings distinct, brownish olive; marginal line continuous.

Face and palpi dull rosy above, pale below; thorax and abdomen like wings.

Expanse of wings: 32 mm.

3 ♂♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

Wings elongate; apex prominent; hindmargin oblique, in hindwing crenulate; antennae with long fascicles of cilia.

80. **Dichromatopodia distans** spec. nov.

Forewing: dingy red-brown, tinged with darker; the lines ochreous with the brown scales deeper on each side of them; first line at one-third, bent on subcostal vein, then straight, slightly oblique inwards; outer line at four-fifths, much nearer the margin than in *sigillata* Wlk., outcurved from costa, then parallel to margin; a diffuse brown cell-spot, immediately followed by a darker median shade; a dark marginal line interrupted by the veins; fringe concolorous.

Hindwing: similar, but without inner line.

Underside straw-colour, pink-tinged; costa of forewing, outer line and marginal area beyond it, and the cell-spot rosy. Hindwing with cell-spot and outer line rosy; the margin only tinged with that colour.

Head, thorax, and abdomen like wings; anal segment and underside of abdomen ochreous; face deep-red above, whitish below.

Expanse of wings: 22 mm.

1 ♂ from Onaca, Sta. Marta, June to August (Engelke); also from Maraval.

Distinguished by the nearness of the outer line to the hindmargin.

81. **Haemalea atridiscata** spec. nov.

Forewing: cream-colour, dusted with black specks; costa dull red-brown, widening towards apex; the lines all diffuse and obscure, olive-ochreous, thickened towards costa; first at one-fourth, curved; median outcurved round the cell to submedian vein, then curved outwards, subdentate; outer line at three-fourths, oblique to vein 6, strongly insinuate beyond cell, then oblique, marked with black dashes on veins, and a larger black spot on vein 5, denticulate; two sinuous submarginal shades; marginal line dark olive, fine; fringe dull-red; cell-mark large and prominent, forming a thick black vertical blotch on discocellular.

Hindwing: without basal line, the other four curved and very indistinct; a minute black cell-dot; fringe red.

Underside cream-colour; costa of forewing, fringe, and middle and outer line of forewing dull red; forewing suffused towards base with pale brownish.

Face and palpi black-brown above, whitish below; vertex white; collar brown; thorax and abdomen cream-colour, the latter with a dorsal row of dark spots.

Expanse of wings: 28 mm.

2 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

Distinguished from *H. rinocinctata* Guen., which otherwise it resembles, by the quite different cell-spot of forewing.

82. **Heterephyra pustulata** spec. nov.

Forewing: deep yellow; the lines dark grey; first at one-fourth, outcurved above and below the median vein; median and outer parallel to each other, at one-half and two-thirds, dentate-lunulate, insinuate beyond cell, incurved below middle and again insinuate on submedian fold; a submarginal row of spots between the veins, the two beyond cell and in the submedian interspace swollen into black blotches; beyond these close before margin a row of brown markings on the veins; a row of black marginal lunules; fringe concolorous; cell-spot large, leaden-grey with black edge.

Hindwing: like forewing, but without basal line; the centre of cell-spot paler; an additional black blotch in submarginal line at apex.

Underside like upper, but the markings less distinct.

Head, thorax, and abdomen like wings; abdomen with third segment blackish; face grey; abdomen beneath and legs yellowish.

Expanse of wings: 35 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

83. **Lipomelia scintillans** spec. nov.

Forewing: pale ochreous, glistening, appearing shagreened with darker; costal edge at base reddish; no distinct lines visible in the ♂, except at costa, where they are reddish, at about one-half and three-fourths; in the ♀♀, which are slightly darker (one especially), the lines are plain and leaden-coloured; the first from middle of costa to middle of inner margin, slightly elbowed outwards

on median vein : the outer oblique outwards and angled on vein 6, then irregularly waved and dentate, parallel to hindmargin; traces of a median line near beyond the first ; fringe concolorous.

Hindwing : with a darker cell-spot, and traces of a curved outer line in the ♀ only.

Underside pale and glossy : costa of forewing rosy.

Face and palpi above, front of forelegs, and antennae red : face and palpi below, thorax and abdomen ochreous, like wings.

Expanse of wings : 16 mm.

1 ♂, 3 ♀♀ from Bartica, British Guiana, April, May 1901.

A very distinct insect, though of obscure appearance.

84. **Lipomelia subfuscata** spec. nov.

Forewing : dull greenish opaline, with a slight rosy tinge, and speckled with black ; cell-spot white, crescent-shaped, occupying the middle half of discocellular, not touching vein 4 or 6 ; outer line darker, distinctly lunulate-dentate, the teeth acutely pointed outwards, the lunules inwards, from three-fourths of costa to three-fourths of inner margin ; indistinct traces of a dark inner line at one-third, and a median dentate-lunulate line between ; marginal area deeper, and with a dull smoky blotch at anal angle ; fringe pinkish green.

Hindwing : with basal third concolorous with forewing, the rest dull rosy ; cell-spot black, occupying the upper half of discocellular, broader above, where it touches the subcostal vein, which, as well as vein 7, is marked with black scales ; outer line from costa to vein 6 black, strongly dentate-lunulate, obsolescent below : the lunules followed by two black spots ; the whole apical angle tinged with brown, containing two black marginal lunules one on each side of vein 7 ; fringe rosy.

Underside pale greenish opaline, the costa of forewing rosy ; anal angle of forewing marked by a large smoky-black blotch reaching vein 4, there becoming submarginal and dull rosy, thinning out towards costa ; a similar but smaller blotch at apical angle of hindwing ; fringe dark beyond the blotches.

Thorax and abdomen concolorous with wings : vertex, face, and palpi dull reddish.

Expanse of wings : 34 mm.

2 ♂♂ from Chimate, Bolivia, 760 m., September 1900 (Simons).

Neither specimen is in good condition, as far as the forewings are concerned, and the markings, except the outer line, are very obscure ; possibly, when fresh, these wings are rosier in colour. It comes nearest to *L. subtincta* Warr.

85. **Odontoptila marginata** spec. nov.

Forewing : bone-colour, dusted with fine purplish brown scales ; the costa diffusely, the hindmargin beyond outer line to below apex concisely, purplish brown ; first line marked by black spots on veins, at one-third, angled in cell before a small dark cell-spot, which is followed by a faint median shade parallel to first line ; outer line black, sinuous, parallel to hindmargin, interrupted above vein 6 and there marked by vein spots, and retracted to costa at three-fourths ; submarginal line pale, broken into spots, bisecting the dark marginal area, the upper edge of which runs obliquely into apex ; marginal line black ; fringe with pale base and tips, and broad brown middle line, mottled darker beyond veins.

Hindwing: with basal two-thirds bone-colour dusted with darker, an antemedian shade preceding cell-spot; outer line punctulate; marginal area as in forewing, but not so dark.

Underside the same, but paler and duller.

Head and thorax purplish black; abdomen brown with black dorsal streak; vertex and antennae snow-white.

Expanse of wings: 19 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., December, beginning of wet season (Simons). Near *O. brunnea* Warr. from Brazil.

86. **Pigia semicostata** spec. nov.

Forewing: white, the markings grey; costa finely grey, more broadly towards apex, before which there are four oblique fuscous streaks, representing the commencement of as many lines; a curved grey inner line, very indistinct; a diffuse straight oblique median shade from before middle of inner margin towards apex, retracted to first costal spot at vein 6, darker marked on veins; outer line dentate-lunulate, from two-thirds of inner margin, marked by black dashes on the veins, also retracted at vein 6 to the second costal spot; two submarginal diffuse dark grey wavy shades, curving inwards to the first and second spots, these also sometimes marked with dark lines on the veins; a series of black marginal dashes; fringe white, with darker basal line; cell-spot small, blackish.

Hindwing: with all four lines diffuse and dentate, and parallel to each other.

Underside dull whitish, the forewing stained with grey.

Face, palpi, and vertex black; collar pale brown; shoulders and patagia white; abdomen white, tinged with grey.

Expanse of wings: ♂, 22 mm.; ♀, 24 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden). Both ground colour and markings are paler in the ♂ than in the ♀.

Pseudasellodes gen. nov.

Forewing: with costa straight, but strongly convex before apex, which is subfalcate; hindmargin with a small tooth at vein 7, and two teeth at veins 3 and 4, above and below which the margin is concave.

Hindwing: fully developed; both angles well marked; a strong tooth at end of vein 6, and a smaller one at vein 4, the margin between strongly excised.

Antennae of ♂ subserrate with very long ciliations; palpi quite short; tongue and frenulum present; hindlegs of ♂ aborted.

Neuration: forewing, cell about half as long as wing; discocellular oblique; first median nervule at one half, second well before end of cell; lower radial from upper fourth of discocellular, upper from upper angle; 7, 8, 9 stalked from before end of cell, 10 and 11 stalked from middle, 10 anastomosing with 8,9; hindwing 6 and 7 stalked; radial from centre of discocellular; vein 2 absent, or with basal fourth only developed.

Type *P. constellata* spec. nov.

Differs from *Asellodes* in the hindwing of ♂ being not aborted and contorted along inner margin and anal angle.

87. **Pseudasellodes constellata** spec. nov.

Forewing: pink, dusted with dark scales, and tinged in places with brownish red; costal area from near base to near apex greyish ochreous; central area occupied by a large triangular hyaline space, separated into two parts by a narrow curved dentated belt of ground colour; the inner part occupying the outer half of cell and the space immediately beyond the discocellular, between the subcostal and median veins; the outer part is transverse in direction with curved edges, reaching from vein 8 to 2, the veins crossing it scaled; below the inner blotch lying on vein 2 is a smaller S-shaped hyaline spot; the inner line, slightly deeper than the ground colour, starts from costa near base, running parallel to inner margin, and edging the pale costal streak, and is then vertically sinuate to inner margin, angled outward on submedian vein; the submarginal line is fine, irregularly waved and bent, forming two rounded lobes on veins 3 and 4 filled up with yellow, and running in obliquely to inner margin before anal angle; it is preceded by a darker cloud with dentate edges, in which the veins show pale, which runs obliquely to inner margin beyond middle; marginal line red-brown; fringe red-brown at the teeth, white between.

Hindwing: with an irregular trilobed hyaline blotch at and beyond end of cell with two smaller spots contignous, below median and above subcostal vein: three smaller isolated spots before postmedian line, one on each side of vein 6, the third on vein 2; also two minute spots at base; postmedian and submarginal lines close together, the former obscure, the latter lunulate-dentate and distinct; marginal area from apex to tooth at vein 6 filled up with deeper red.

Underside glaucous grey, the marginal areas alone reddish-tinged.

Vertex, antennae, face, and under-surface of palpi white; palpi fuscous above; thorax and abdomen reddish, like wings.

Expanse of wings: 40—44 mm.

4 ♂♂ from Peru.

88. **Ptychopoda curtaria** spec. nov.

Forewing: rather glossy ochreous, with excessively minute dark dusting; crossed by five hardly darker waved bands, which can only be detected in certain lights: antemedian, median, postmedian, and two submarginal; a small round black cell-spot; a row of marginal dots, exceedingly minute, at the ends of the veins; fringe pale ochreous.

Hindwing: without first line.

Underside ochreous, the bands showing only on the forewing; cell-spots large, black.

Thorax and abdomen concolorous with wings: vertex paler; face and palpi brown-black.

Expanse of wings: 12 mm.

1 ♂ from Jamaica (Taylor).

89. **Ptychopoda griseocostata** spec. nov.

Forewing: blood-red, speckled with yellow; costa from base to beyond middle broadly dull pale grey, edged below with a streak of dull black: costa towards apex narrowly yellow: hindmargin narrowly yellow, except at apex and middle, where the blood-red ground colour runs through into the yellow fringe.

Hindwing : with a large silvery white cell-spot ; fringe yellow.

Underside of both wings dull red ; fringe yellow.

Head and palpi deep red ; shoulders silvery whitish ; thorax and abdomen red like wings.

Expanse of wings : 17 mm.

2 ♂♂ from Bulim, Ecuador, February 1901, 160 ft. (Flemming & Miketta).

90. **Ptychopoda inanis** spec. nov.

Forewing : pale stone-colour, thickly dusted with greyish ochreous scales ; the lines very obscure, waved, greyish ochreous ; the first from costa at one-third to inner margin at one-third, strongly angled in cell in midwing, before the distinct small black cell-spot, then oblique : the cell-spot at quite three-fifths of the wing, followed by three lines parallel to hindmargin, corresponding to the usual median, outer, and subterminal ; slightly darker marginal dashes ; fringe paler, with small dark dots at base beyond the veins.

Hindwing : similar, but without a basal line.

Underside of hindwing like upper ; of forewing thickly suffused with fuscous grey ; cell-spots and outer line indicated.

Vertex, thorax, and abdomen concolorous with wings ; face and palpi dark brown.

Expanse of wings ; 13 mm.

1 ♂ from Jamaica.

The whole insect has a dusty look, owing to the coarseness of the dark scales.

91. **Ptychopoda lignicolor** spec. nov.

Forewing : uniform pale wood-colour, undusted except along costa, which is broadly speckled with dark grey atoms ; the lines pale brown : first at one-third, nearly vertical, but slightly bent outwards at the median vein ; second line faint, from two-thirds of costa to middle of inner margin, outcurved above and incurved below middle, vertical from submedian fold ; outer line at five-sixths, parallel to hindmargin, and marked darker on costa ; a fine dark marginal line ; fringe concolorous, with brown spots in middle beyond the vein-ends ; cell-spot brown.

Hindwing : without first line.

Underside of forewing whitish, suffused except along inner margin with iron grey ; the veins, cell-spot, outer and marginal lines blackish ; costal edge and fringe yellow, the latter with the dark spots large and prominent. Hindwing without dark suffusion.

Head brown-black ; thorax and abdomen concolorous with wings.

Expanse of wings : 17 mm.

1 ♀ from Popayan, Colombia (Lehmann).

The hindmargin of forewing is slightly, of hindwing deeply inbent between veins 4 and 6. Easily distinguished by its unusual colour.

92. **Ptychopoda nepticulata** spec. nov.

Forewing : pale grey, dusted with darker grey ; the lines dark grey ; the basal and median starting from large black costal spots, both angled in cell then oblique inwards ; the basal area as far as the median line darker than the

rest of wing: outer line at three-fourths, indented beyond cell and on submedian fold; the area between it and median line paler; submarginal line pale, sinuous between grey shades, that which precedes it being more prominent and forming a narrow band; fringe grey, with large black dots at base; cell-spot black, at three-fifths of wing.

Hindwing: the same, but without basal line, and only the basal third, as far as the antemedian line, darker than rest of wing.

Underside dull grey. Face and palpi blackish; thorax and abdomen grey.

Expanse of wings: 10 mm.

1 ♂ from Ciudad Bolivar, Veneznela, July 1898 (S. Klages).

Quite the smallest member of the family; the forewing is elongate and narrow.

93. **Ptychopoda nigricosta** spec. nov.

Forewing: yellow, with four rosy waved oblique shades, all with dentate edges, and insinuate inwards in and beyond cell and across submedian fold; cell-spot and a fine marginal line also rosy; fringe yellow; costa blackish throughout.

Hindwing: with three similar lines; the base of both wings rosy.

Underside duller: the costal area more broadly blackish.

Face, palpi, and vertex black-brown; thorax and abdomen yellow; front and sides of shoulders shining white.

Expanse of wings: 16 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Like *P. quadrirubrata* Warr., but distinguished by the blackish, not rosy, costa.

94. **Semaeopus signifer** spec. nov.

Forewing: greyish ochreous, dusted with very minute reddish scales, the costal region broadly greyer without the ochreous tint; lines very pale brownish; basal line at one-fourth, a little outcurved above and below median, and slightly darker dotted on veins; median shade dentate-lunulate, oblique from three-fourths of costa to middle of inner margin; outer line near hindmargin, marked by distinct brown-black spots on veins; hindmargin slightly crenulate; fringe concolorous, with minute reddish dots at base beyond the veins; cell-spot reddish-brown.

Hindwing: without basal line; median shade, outcurved round the cell-spot, which is a black ring with a red streak across it; the rest as in forewing.

Underside glossy ochreous; the forewing only dusted with grey towards base; cell-spot and median shade marked only on forewing; outer line and a black marginal line on both wings.

Head, thorax, and abdomen like wings; palpi externally and upper third of face dark purple; tuft of hindlegs large, ochreous, concealing a smaller rosy tuft.

Expanse of wings: 44 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Differs from true *Semaeopus* in having sessile fascicles of cilia instead of pectinations.

95. **Zeuctoneura subviridis** spec. nov.

Forewing: dull greenish ochreous; inner line at one-fourth and median from one-half of costa, both obscurely marked, bent in middle of wing, then oblique inwards; outer line at three-fourths, blackish, sinuous, incurved beyond cell and on submedian fold, followed at anal angle by a dark blotch; marginal line slightly darker; fringe dull green, mottled with darker beyond veins.

Hindwing: with obscure antemedian and outer lines, and a small black cell-dot.

Underside much paler, ochreous slightly green-tinged: forewing rosy along costa and veins; base of forewing grey; a blackish median line, and thick black outer sinuous line, the black running out along the veins; marginal line black; fringe ochreous, mottled with black. Hindwing with small cell-spot and thick black outer line, followed by a blotch at apex.

Head black; thorax and abdomen like wings.

Expanse of wings: 22 mm.

3 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

The black of the outer lines below shows through in parts on the upperside.

SUBFAMILY HYDRIOMENINAE.

Anapalta gen. nov.

Agreeing with *Epirrhoë* in neuration; distinguished by the palpi and antennae; the palpi are upcurved or porrect in front of face, the third segment erect; the antennae are lamellate, and quite simple, without even short ciliations.

Type: *Anapalta acerbata* Feld.

Quite a large number of S. American species will be found referable here.

96. **Anapalta caliginosa.**

Hammaptera caliginosa Warr., *Nov. Zool.* vii. p. 177, ♀ (1900).

This species, described from a ♀ only, was doubtfully referred to *Hammaptera*. The insect proves, however, not to belong to that genus; the inner margin of the hindwing of the ♂ is simple. The ♂♂ are, as a rule, paler than the ♀♀, and more brightly coloured; the pale cream-coloured band before central fascia sometimes becomes olive-green, like the band following the fascia, while the central area is varied with brown and olive-green; all the lines are more distinct: the hindwing is glossy white, with the inner marginal area greyish olive; no darker marginal border, but on the inner margin above anal angle are the commencements of two blackish lines, which in some instances can be traced across the wing as curved grey lines.

5 ♂♂ from Charaplaya, Bolivia, June 1901, 1300 m. (Simons).

97. **Anapalta infundibulata** ab. **vinosata** nov.

Differs from the ordinary form of Gueneé's species in having the basal two-thirds of forewing suffused with vinous red, the central fascia being entire from costa to inner margin; the outer third is whitish grey, with all the markings very concisely and clearly expressed.

In the hindwing and underside it agrees with the type-form.

1 ♂ from Chanchamayo, June to August 1901 (Hoffmanns).

98. **Anapalta perdecora** spec. nov.

Forewing: cream-white, tinged with buff, and in the basal and marginal areas suffused with violet-grey; lines slender, waved, all black towards costa: extreme base grey; basal patch small, buff, edged by a black line and crossed by two lines which are black only at extremities; band between basal patch and central fascia suffused with violet-grey as far as subcostal vein only, traversed by wavy lines, varied with grey and whitish; central fascia pale buff, its edges deeper, the cross-lines black only on costa, central space paler still, with a black cell-spot; outer edge dark nearly across wing, indented beyond cell and forming two blunt, strong teeth between veins 2 and 4; marginal area below subcostal vein tinged with violet-grey, with two or three waved and dentate dark lines most distinct in upper half; submarginal line yellow, only plain beyond cell, where it is represented by two or three yellow lunular spots in the grey tint, lost below middle in the yellow marginal space; apical blotch yellow; black marginal lunules, interrupted at vein-ends, and partially interrupted each in middle; fringe pale violet-grey, chequered with darker.

Hindwing: white with a very faint yellow tinge; slight dark marginal lunules and marks of lines along inner margin.

Underside pale yellowish; all the markings of forewing purplish grey; subbasal area with grey suffusion; outer edge of central fascia with three thick lines; band beyond it pale; apical area grey, with apex yellowish white; none of the markings reaching inner margin. Hindwing without markings, but the lines are indicated faintly on costa; cell-spots in both wings.

Head, collar, and shoulders yellow; thorax, patagia, and back of abdomen purple-grey, the last sometimes varied with yellow; underside of abdomen and the legs yellowish; palpi externally purplish.

Expanse of wings: 38 mm.

3 ♂♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons)

99. **Anapalta roseoliva** spec. nov.

Forewing: cream-colour, suffused with pale green and rosy; the basal patch, the limiting bands of the central fascia, and the marginal area olive-green; basal patch small, with three black dots on its costal edge, followed by a curved band of ground colour narrowed at inner margin, the centre of which is dusted with rosy scales; the curved green inner band of central fascia is edged inwardly with velvety black, which fills up the whole band below the median and a great part of it above; outer green band broader, edged outwardly by a black line, which is sinuous outwardly from two-thirds of costa to vein 4, below 4 forming the usual prominent tooth and four smaller lunulate ones below it, but scarcely edged with black; middle space of the ground colour dusted with reddish, and containing a dark linear cell-mark; beyond the fascia is a white line, followed by an area of rosy scales mixed with olive-green, and sometimes grey, towards costa, and bounded by the very indistinctly marked lunulate submarginal line, beyond which the margin is entirely green; pairs of small black spots at the vein-ends; fringe pale green, with dark chequering beyond veins; all the lines are marked with black on costa.

Hindwing: cream-colour, without markings, slightly tinged with olive and rosy along hindmargin; traces of two dark lines on inner margin above anal angle.

Underside cream-colour, washed with olive; cell-spots and outer line dark, the latter followed first by a pale band and then by a diffuse darker one, expanding into a dark fuscous blotch below costa of forewing, touching margin below 6 and leaving the apex pale.

Head, thorax, and abdomen cream-colour, olive-tinged in places; patagia rosy; abdomen with a pair of black streaks on each segment. Forelegs and middle legs with the tibiae and tarsi mottled blackish and ochreous.

Expanse of wings: 26 mm.

4 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

190. **Anapalta sombrera** spec. nov.

Forewing: dull greenish brown, coarsely dusted with dark scales; crossed by a succession of waved blackish lines, darker and plainer on costa; the limits of the basal area and central fascia cannot be well defined, the ground colour being uniform throughout; the central area is rather darker brown than the rest of the wing, and the black cell-spot stands in a darker band between two lines; a paler band at three-fourths is followed by a darker shade partially connected with hindmargin; a broken black marginal line; fringe mottled with black beyond veins.

Hindwing: dull brown, overlaid with rough dark scales, without any markings.

Underside dull greyish cinereous; costal area to middle and a broad post-median band dull luteous. Hindwing dull luteous speckled with fuscous, and with dull fuscous marginal border; dark cell-spots on both wings.

Head and thorax concolorous with forewing, abdomen with hindwing.

Expanse of wings: 25 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

A very dull and ill-marked insect, perhaps abnormally so.

191. **Anapalta violetta** spec. nov.

Forewing: basal patch, central fascia, and marginal area dingy olive-green edged and crossed by black wavy lines; spaces between basal patch and central fascia and between this and submarginal line pale violet; the costal portions of these also olive-green with dark streaks; the area around the black cell-mark in the fascia sometimes violet; pairs of black spots along margin at the vein-ends; fringe olive, dark-chequered beyond veins, and spotted with white at apex and between veins 3 and 4.

Hindwing: olive-grey or olive-ochreous, when fresh with traces of slightly darker postmedian and submarginal bands, edged with paler; marginal spots smaller; fringe pale.

Underside pale ochreous, suffused, especially in the forewings, with violet-grey: all the markings dark grey, tinged in parts with greenish.

Head, thorax, and abdomen pale ochreous: metathoracic tufts blackish; dorsal segments of abdomen edged with black.

Expanse of wings: 26—28 mm.

9 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Anisolasia gen. nov.

Forewing: costa somewhat shouldered at base, and strongly convex before apex; apex prominent; hindmargin oblique, very faintly sinuous; inner margin convex.

Hindwing: with apex rounded; hindmargin nearly straight from vein 6 to anal angle, which is square.

Antennae of ♂ plumose, the pectinations unequal, those on the outside much longer than the inside row, but all very long, fine, and ciliated; the longest of the outer series about one-fourth as long as the shaft itself; forehead produced below; palpi porrect, rough-haired; tongue and frenulum present.

Nenration as in *Xanthorhoe*, but the lower radial of forewing rising distinctly above the middle of discocellular.

Type: *Anisolasia nupassa* Dogn. (*Cataclysme*).

The type species is of small size and delicate structure, somewhat resembling the group of smaller South American species of *Coenocalpe*, *apricata*, *emanata*, etc.

102. **Diactinia albinodosa** spec. nov

Forewing: dark olive-fuscous; the lines and some of the veins pure white; the median vein and basal portions of the three median nervules white; a straight oblique white line near base, followed by a curved line, outbent above and below median, the two forming roughly the letter B; a black heart-shaped discal mark edged with white, its upper edge connected by a white streak above vein 6 with the broad white outer line, which runs from two-thirds of costa to three-fourths of inner margin forming a prominent blunt angle between veins 3 and 4; just before this are two waved brownish lines separated by darker fuscous; submarginal line waved, white, interrupted by the veins, which towards the hindmargin are all dull ferruginous, and preceded and followed by blackish blotches between the veins; marginal line of double black dashes; fringe olive-fuscous with darker dividing line, the whole concisely cut beyond the veins by fine pencils of white.

Hindwing: white, slightly grey-tinged; a dark discal spot and traces of two lines, postmedian and submarginal, distinct only on inner margin; paired black marginal dashes; fringe white.

Underside of forewing dull olive-grey, becoming fuscous towards apex and hindmargin; a dark cell-spot; outer and submarginal lines, and the dashes in fringe white. Hindwing whitish, dusted with grey; a dark cell-spot; a whiter postmedian band, angled in middle, and slightly edged with darker, especially on the veins basewards.

Head, thorax, and abdomen dark olive-fuscous, in places mixed with pale scales; vertex and collar whitish; tips of patagia dull ferruginous; abdomen with a white band at base and the segments whitish.

Expanse of wings: 42 mm.

1 ♂ from Peru.

103. **Dolichopyge canisparsa** spec. nov.

Forewing: white, thickly dusted and tinged in parts with grey; basal patch edged by a curved blackish line, the extreme base darker grey; it is followed by a narrow curved pale grey band with dark line along middle; inner edge of

central fascia marked by a thick curved velvety blackish band, the outer edge from costa at three-fifths, oblique to vein 6, there rounded and vertical to vein 4, then incurved and lunulate to two-thirds of inner margin; this edge is margined with black inwardly from costa to vein 4 only, most thickly between 4 and 6; it is followed by a white line, and a grey black-edged band; apical portion of wing brown and grey mixed; submarginal line very obscure; an interrupted black marginal line; fringe white chequered with grey, the basal half more distinct; the white ground colour is strongest at middle of central fascia, and is extended to hindmargin more or less between veins 2 and 4, partially obliterating the dark markings.

Hindwing: whitish, with traces of grey lines along inner margin; a grey cell-spot, and fine indistinct submarginal grey line; fringe white, chequered with grey only in basal half; marginal line blackish, interrupted.

Underside of forewing dull-grey, of hindwing whitish, grey-speckled; the markings indistinct.

Head, thorax, and abdomen dark grey.

Expanse of wings: 25 mm.

1 ♀ from Ecuador.

104. **Dolichopyge fulvistriga** spec. nov.

Forewing: wood-brown, speckled and suffused with grey; a fulvous streak along subcostal vein from base to near apex; basal patch grey-brown speckled with whitish, edged by a curved dark line, and traversed by two lines; inner edge of central fascia at one-third, thick, black; curved outwards and indistinct on costa, straight and oblique inwards from subcostal to submedian fold, then again bent inwards; from this line above the median vein a sinuous line runs to middle of inner margin, the space within it grey; outer edge of fascia oblique to vein 4, and slightly protuberant at 6, then oblique inwards, edged inwardly with blackish in upper half, and with two dark wavy lines across it; cell-spot linear, black; pale band beyond the fascia whitish at costa with a dark centre; submarginal line whitish, interrupted, preceded by a large dark blotch on costa and a smaller one beyond cell and above inner margin; fringe grey, chequered with darker.

Hindwing: grey, darker along hindmargin, with traces of a pale submarginal line, and dark beginnings of lines along inner margin; cell-spot black.

Underside grey in the forewing; the commencement of lines on costa blackish, with pale intervals: a broad subapical cloud; cell-spot black. Hindwing whitish speckled with black, and with all the lines blackish.

Face and vertex whitish; shoulders and patagia mixed, black and white; abdomen cinereous, tinged with brown, and with a silvery white basal ring.

Expanse of wings: 30 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

105. **Erebochlora ruficostaria** spec. nov., and ab. **pernigrata** nov.

Forewing: deep purple, crossed by irregular waved lunulate-dentate olive-green bands; the costa with a very broad smooth pale liver-coloured stripe; of the bands two are close to base; three are median, the second and third of these sometimes partially obsolete; and two postmedian, of which the first is curved

below the median, oblique and broad above, and the second sinuous from apex to anal angle; along the cell and above the median vein these green bands tend to become laterally continent, and in one of the two examples form a pale green horizontal stripe from base to hindmargin; marginal oval green spots between the veins; fringe deep purple, except at extreme apex; fringe along inner margin bright vinous-red.

Hindwing: white, with a broad black border round hindmargin, containing a small white spot before and a larger one at apex; inner margin narrowly black; an irregular white blotch between veins 3 and 4 beyond the dark line that forms the inner edge of the marginal border; fringe black with white marginal dashes at base between the veins; the fringe round apex white.

Underside of forewing black, with three dull white streaks from base, one along costa, leaving the costal edge black, the second along lower half of cell, the third along submedian fold and inner margin, running to hindmargin, and crossed at three-fourths by a blackish shade; an oblique white streak from costal vein at two-thirds to vein 3; a white apical triangle. Underside of hindwing white, with black marginal border, interrupted externally at apex, and internally at anal angle, with white.

Head, collar, shoulders, and basal fourth of antennae concolorous with costal streak; patagia pale green at base, blackish green beyond; thorax and abdomen blackish green, the thorax and basal segment of abdomen with reddish scales intermixed; abdomen at sides and beneath dull cream-colour; legs fuscous, with pale joints; forelegs in front bright red.

Expanse of wings: 60 mm.

2 ♂♂ from Peru.

A form occurs, apparently of this same species, in which the costal streak is bright rufous, instead of liver-colour: above the median vein and along vein 4 a continuous pale greenish white streak runs from base to margin; and the whole hindwing above is black, except the small apical spot; underneath the examples are quite typical. For this aberration I propose the name *pernigrata*.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

106. **Erebochlora sublactea** spec. nov.

Forewing: deep blackish green, crossed by dull olive-green bands; basal patch olive-green edged with dark green scales; inner edge of central fascia straight, dentate wavy, from two-fifths of costa to middle of inner margin; the broad space between it and basal patch dull green, the edging finely whitish, and the centre darker tinged, also with a waved pale edging; outer edge of central fascia oblique outwards from three-fifths of costa, slightly indented beyond cell, forming two rounded projecting teeth between veins 2 and 4, then incurved and wavy to three-fourths of inner margin: towards costa this is also edged with white; the fascia is followed by a narrow dull green band; submarginal line wavy, bluish white, indented beyond cell, followed by irregular wedge-shaped dark green patches between the veins, and preceded beneath costa by a triangular blotch of three blackish green lines; a line of blackish marginal lunules between the veins; fringe blackish.

Hindwing: velvety brown with a dark rufous tinge; fringe the same.

Underside dull blackish fuscous, the basal third of forewing and the whole

of the hindwing, except a segment across hindmargin, bluish white. The hindwing with distinct small black cell-mark on upper third of discocellular.

Head and vertex reddish, perhaps faded ; patagia olive-green ; thorax and basal segments of abdomen dark green mixed with rufous ; rest of abdomen blackish green ; abdomen and legs beneath pale.

Expanse of wings : 44 mm.

1 ♂ from Peru.

107. **Eriopygidia engelkei** spec. nov.

Forewing : pale olive-green, slightly fulvous-tinged, especially at base and along costal region ; the lines and bands darker green ; basal patch edged by a thick diffuse dark green shade, angled on median vein, ending in a fulvous blotch on inner margin, with a similar more obscure line within it ; central fascia narrow, dark olive-green edged with blackish ; both edges strongly waved, deeply insinuate in cell, and less so on submedian fold ; cell-spot black, large, and linear ; the pale bands on each side of central fascia paler green without central lines ; submarginal line dentate, pale green with a darker olive-green shade on each side, the teeth outwardly edged with velvety black wedge-shaped spots, produced as lines to the black marginal line, the preceding shade edged with black only at costa ; fringe fulvous olive, chequered with dark beyond veins ; all the lines thicker and blacker, and the intervals paler, towards costa.

Hindwing : small, fulvous orange, with the costal region broadly pale olive and the hindmargin slightly olive-tinged ; fringe fulvous.

Underside of both wings uniform gilded yellow ; outer margin of forewing tinged with olive ; cell-spot of forewing linear, brown.

Head, thorax, and abdomen pale green, the dorsum tinged with fulvous ; palpi externally and legs yellow.

Expanse of wings : 37 mm.

1 ♂ from Onaca, Sta. Marta, June to August (Engelke).

Distinguished by the fulvous hindwing and fulvous tinge on forewing, as well as by the gilded uniform under surface, and comparative smallness of the hindwing.

108. **Eriopygidia locuples** spec. nov.

Forewing : a mixture of olive-green and rich deep vinous red, the olive ground colour showing only in the cross-lines ; first line nearly straight from one-third of costa to near middle of inner margin, narrow and bright at costa, irregularly crenulate on each edge below, curving round at inner margin and running into the outer line ; this rises at three-fifths of costa, runs obliquely outwards to vein 6, narrow and bright pale ochreous, followed below costa by two olive-green wavy lines which take its place below 6, forming a sinus beyond cell, then a bidentate projection between 2 and 4, finally running obliquely waved inwards to meet the inner line ; submarginal line waved, finely olive-green, some of the lunules edged by bright pale ochreous ; an oblique olive-green apical streak ; the basal patch and central fascia are edged and crossed by deep blackish waved lines, among which can be seen in certain lights some waved dark green shades ; across the basal patch an obscure pale green curved line ; deep black marginal lunules between the veins ; fringe vinous red, with a darker dividing

line and mottlings beyond veins ; beyond the cell and below the oblique apical streak the submarginal line is interrupted by a triangle of rich deep vinous red.

Hindwing : black, with the apical third from near base of costa to hindmargin at vein 4 deep orange-red ; fringe orange-red at base throughout, the outer half dark grey, becoming blacker towards anal angle.

Underside of forewing coppery red, with a black triangular blotch on inner margin below the median bounded by the outer line, with black projections from its upper edge, the inner being the cell-spot ; two slight blackish costal streaks before apex, and a slight pale spot at outer line ; marginal lunules finely black ; fringe in basal half deep black, coppery beyond with black mottlings. Hindwing almost wholly brown-black, the copper ground colour only showing as striae ; cell-spot, central curved line, submarginal line, and marginal shade blacker.

Palpi, head, and thorax vinous-red and black ; abdomen black ; pectus, abdomen beneath, and femora coppery red ; outside of legs and tarsi spotted, red and black.

Expanse of wings ; 39 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Nearest to *E. semirubra* Warr., but of a totally different shade of colouring.

109. **Eriopygidia rufivena** spec. nov.

Forewing : olive-green varied with deeper green ; the edges of the basal patch and central fascia and the submarginal line greenish white ; edge of basal patch from costa close to base to one-fifth of inner margin, preceded by dark green shading ; inner edge of central fascia from nearly one-third of costa, outwardly oblique and projecting slightly in cell and forming a beak below median on vein 2 ; outer edge from nearly two-thirds of costa, projecting bluntly at veins 6 and 4, inangulate between, lunulate and oblique inwards below, joining inner edge above middle of inner margin ; the fascia deep green on each edge, slightly paler at middle, with traces of a dark line beyond the obscure cell-spot ; band before central fascia darkest at middle, this dark middle part angled parallel to the edge, and faintly paler-scaled along its margins ; band beyond fascia pale olive-green, its lunules paler-edged ; submarginal lunules filled up with deep green, except those beyond cell, which are interrupted by a blackish green blotch externally ; marginal lunules blackish green with whitish bases, generally united by dark streaks with the dark edging of the lunules of submarginal line ; a slight pale green streak from below apex to submarginal line ; fringe olive-green, the tips paler, and mottled with dark beyond veins.

Hindwing : olive black-brown, the ends of the veins and the basal half of fringe deep red, the red running up blotch-like along veins 7 and 8 ; the post-median line marked by double red spots across veins 2, 3, 4.

Underside of both wings uniform fulvous ; costa of both wings, inner margin of hindwing and fringes olive-green ; a slightly paler shade marks the edge of central fascia ; apex of forewing olive ochreous.

Head and thorax olive-green mixed with darker shades ; face paler ; palpi externally olive ; abdomen greenish ochreous like the underside and legs.

Expanse of wings ; 36 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Near to *E. radiosa* Dogn. ; in his description of *Cidaria flavolimbarioides* M. Dognin mentions one example differing from the rest of his specimens in having wholly dark hindwings with orange apex, which must be very near the present species.

110. **Hammaptera aeruginata** spec. nov.

Forewing : whitish, suffused throughout with dull rust-colour, the only pale spaces being the slender edges of the subbasal band, the postmedian band, and the submarginal line. The markings are exactly as in *H. constricta* Warr. from Argentina ; the lines of the central fascia alone are dark marked, and these chiefly on the veins, but all the lines are marked by a black costal spot ; in the shade preceding the submarginal line the lunules beyond cell are conspicuous, being filled in with blackish ; the lines and shades of the apical quadrate patch (in this case of the same tint as the rest of the wing) are continued through to inner margin ; in *constricta* the anal space is clear white.

Underside yellowish white, with the same markings as in *constricta*.

Head, thorax, and abdomen concolorous with wings, the segments of the last with dark pale-edged rings.

Expanse of wings : 30 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

This may be a local form of *H. constricta*, but it is very distinct in appearance.

111. **Hammaptera apicata** spec. nov.

Forewing : whitish, tinged with flesh-colour, especially along costa : the markings fuscous ; basal patch small, its edge vertical, with three blackish lines ; band before central fascia broad, with an obscure grey-edged middle space ; central fascia of nearly even width throughout, the outer edge angled on veins 6 and 4, insinuate beyond cell and on submedian fold ; its edges consisting of three black lines each, distinct above median vein, and containing a black cell-spot ; lower part of fascia filled up with fuscous, which sometimes extends to costa also ; the pale band beyond it traversed by a darker line, edged at costa by a dark oblique line, and followed by two more, which are often fused together ; the whole apical space forming a subquadrate dark patch to vein 4, through which the pale waved submarginal line and an oblique apical streak are visible ; marginal area below 4 with the markings more or less obsolete, being traceable only in very good examples ; pairs of marginal spots at vein-ends ; fringe flesh-coloured ochreous, varied with dark grey.

Hindwing : flesh-coloured ochreous, slightly grey-tinged, with obscure traces of grey marginal border and postmedian line and cell-spot ; marginal spots as in forewing ; fringe ochreous.

Underside with a square black apical blotch on forewing, the apex itself remaining ochreous ; the outline of central fascia grey above the median vein ; cell-spot plain. Hindwing with narrow grey submarginal band, indented grey postmedian line, and dark cell-spot ; basal area to postmedian line tinged with grey.

Face and vertex ochreous ; thorax and abdomen much suffused with fuscous ; segments of abdomen with dark bands ; palpi ochreous with fuscous tips ; legs ochreous, the fore- and midtarsi blackish-spotted.

Expanse of wings : 32 mm.

2 ♂♂, 1 ♀, from Sapucay, near Villa Rica, Paraguay, July 1901 (Foster).

112. **Hammaptera cacuminata** spec. nov.

Forewing: whitish, tinged with olive-grey, the lines indistinct and blurred, all marked by black costal spots; basal area suffused with a deeper green tinge, extending partially along costal portion of central area: basal patch edged by an olive-green shade, and crossed by one or two darker lines; the band beyond also suffused with olive: inner edge of central fascia slightly indented at middle, outer oblique outwards and forming two projecting teeth between veins 2 and 4, the ends of which stand out velvety black from the pale ochreous green fascia: cell-spot dark, followed by a cross-line which is black at costa: apical area occupied by a dull blurred brownish olive subquadrate blotch, reaching vein 4; the submarginal line regularly waved and pale, the space before it pale brown in the patch and greenish beyond, greenish white on both sides below vein 4; the lunules beyond cell edged on both sides with black; band between central fascia and apical blotch whitish to vein 4; marginal black spots in pairs; fringe ochreous with dark mottlings beyond veins; all the lines darker along inner margin.

Hindwing: dirty ochreous, paler towards apex; two indistinct darker lines above anal angle: marginal spots distinct; fringe ochreous, tinged with grey towards anal angle.

Underside pale ochreous, with black markings; outer half of central fascia black to vein 2; a deep black marginal border, interrupted between veins 3 and 4, then fading out, the extreme apex ochreous; fringe ochreous, marked with blackish. Hindwing with black border throughout: a postmedian line, oblique from middle of costa to below vein 4, thence waved, parallel and close to marginal border to inner margin: the enclosed area black-speckled, with black cell-spot; fringe ochreous.

Head, thorax, and abdomen greenish ochreous.

Expanse of wings: 37 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Related to *H. cocama* Schaus, possibly a form of the ♀ of that species.

113. **Hammaptera nigrolineata** spec. nov.

Forewing: yellow ochreous, with the lines slightly deeper yellow; the edges of the markings black; basal patch with an obscure dark edge, sinuous; inner edge of central fascia finely black throughout and waved, parallel to basal line; outer edge oblique outwards, angled below vein 4, strongly marked above middle, obsolete below, the traversing lines marked by black dots on costa and with black shading on and below submedian vein: three black lines from costa, not reaching vein 6, before submarginal line, which is whitish and lunulate, the lunules preceded by a series of black spots, that between veins 4 and 5 conspicuous, and followed by wedge-shaped black marks reaching hindmargin; marginal black spots in pairs; fringe ochreous.

Hindwing: suffused with dirty grey to an indistinct submarginal line, followed by a paler band: marginal border blackish, extending partially along the fold of inner margin; marginal dark spots and fringe as in forewing.

Underside of forewing with black marginal band, broad at costa, where it leaves the apex ochreous, narrowing and fading out below vein 4; edges of central fascia

showing through only : hindwing with grey margin showing pale spots between veins ; a submarginal grey shade and the fold grey-tinged.

Head, palpi, thorax, and abdomen all yellow ochreous ; legs ochreous yellow, the foretarsi faintly grey-spotted.

Expanse of wings : 35 mm.

1 ♂ from Sapucay, near Villa Rica, Paraguay, July 1901 (Foster).

114. **Hammaptera subalbata** spec. nov.

Forewing : flesh-coloured brown, tinged with olive and sometimes darkened with fuscous suffusion ; middle third of wing occupied by a dark blackish brown fascia crossed by several waved lines and containing the obscure cell-spot ; this fascia has its inner edge formed of three curves concave basewards, the middle one large, stretching from fold to fold ; all the lines basewards parallel to it—viz., the edges of a curved dark band and the lines in the pale bands on each side of it ; the basal patch quite small, with three dark lines ; the bands preceding and following central fascia more tinged with green ; submarginal line close to margin, formed by the interrupted pale ends of the usual lunules, preceded by three waved dark lunulate lines ; pairs of semiconfluent black dots along margin at the vein-ends ; fringe concolorous with dark mottlings.

Hindwing : smoky brown-black ; the fringe the same.

Underside of forewing smoky blackish, the basal two-fifths whitish ; a pale bent band beyond central fascia and pale spots at apex and below vein 4. Hindwings bluish white, with a black blotch from apex to vein 4, a blackish smear at anal angle, and blackish fringe.

Head and thorax pinkish brown ; palpi externally, tips of patagia, and metathoracic tufts dark ; abdomen brown with black segmental rings, sometimes confluent. Underside of abdomen and legs ochreous.

Expanse of wings : 36 mm.

2 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Easily distinguished by the remarkable white underside of wings, excessively like that of *Erebochlora sublactea* Warr.

115. **Hydriomena ochreiplaga** spec. nov.

Forewing : dull olive ; the rows of spots dark olive-fuscous ; all the spots finely but roughly edged with pale red-speckled ochreous, whereby the whole wing assumes a slightly reddish tint. The rows of spots are six in number : the first basal, hardly interrupted ; second, antemedian, of three spots, a large double one in cell and beneath it, and irregular truncated ones above costal and below submedian vein respectively ; third median, double towards costa, consisting of two irregularly shaped costal spots, pointed towards each other, a small blotch in cell, and a large elongated blotch beyond cell, the latter connected below cell with the outer of two curved and angled blotches in submedian interval, which unite to form a square blotch on inner margin ; fourth postmedian, slightly curved and waved, the spots lunate and coalescent ; fifth submarginal, of rounded and irregular spots, partially contiguous, the two beyond cell being smaller, those above and below them largest ; sixth marginal, formed of more or less diamond-shaped blotches touching dark marks at the vein-ends, and enclosing pale flattened ovals before the fringe, which is

olive : a pale yellowish ochreous elongated blotch occupies two-thirds of the lower half of cell.

Hindwing : glossy grey, with traces of a darker postmedian shade and darker margin ; fringe grey.

Underside of forewing fuscous-olive, with the costal region broadly reddish and the costal marks of upperside reproduced, the series of spots being all faintly discernible. Hindwing dull reddish, speckled with olive fuscous, with diffuse central shade, distinct postmedian lunulate line, and outer margin broadly fuscous.

Abdomen concolorous with hindwing ; thorax, shoulders, face, and terminal segment of palpi reddish and pale ; vertex, collar, and patagia dark olive, the same colour as the spots ; front of forelegs red.

Expanse of wings : 44 mm.

1 ♂ from Popayan, Colombia (Lehmann).

Hypolepis gen. nov.

An offshoot of *Psaliodes*. The abdomen of the ♂ beneath is furnished with a double row of large spatulate scales meeting keelwise along the middle, from between which arises a long double curved pencil of hairs, or thick tufts of hair. The hindwing bears a partially scaled furrow along the submedian fold. Lastly the neuration differs : the discocellular of the hindwing is not biangulate, but vertical above and oblique below, the radial rising from above the centre. The antennae are thickened, subserrate, the teeth clavate.

Type : *Hypolepis strigosa* spec. nov.

116. **Hypolepis albistriga** spec. nov.

Forewing : dark brown ; the lines and all the veins (except vein 5) whitish ochreous ; basal line vertical, below middle curved outwards ; inner line straight and broad, from middle of costa to just before middle of inner margin, closely preceded from subcostal vein by a narrower slightly waved line ; outer line double, at three-fourths, outcurved between vein 7 and the submedian fold, both arms somewhat crinkled ; submarginal line irregularly zigzag, forked below apex, all but touching outer line on vein 5 ; a marginal line of whitish scales ; fringe dark brown, chequered with whitish between the veins.

Hindwing : whitish ochreous, darker along hindmargin ; fringe ochreous, chequered with black beyond veins, and with a dark fine line along base.

Underside pale blurred grey ; a broad submarginal streak and veins 6 and 7 narrowly orange-red ; apical area dusted with pale ochreous ; inner and outer lines pale, the latter dark-edged towards costa ; fringe ochreous with velvety black mottlings beyond veins. Hindwing whitish, mottled with brown ; a brown postmedian waved line, costal and subcostal veins orange ; fringe yellow, with black line along base.

Face brown ; vertex ochreous ; shoulders and patagia brown with ochreous tips ; abdomen ochreous, brown along dorsum, with the segmental divisions ochreous ; legs brown, speckled with ochreous ; scales beneath abdomen and the tufts ochreous ; (palpi broken).

Expanse of wings : 26 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

117. **Hypolepis castanea** spec. nov.

Forewing: dark chestnut-brown; the basal patch, central fascia, and marginal area darker, more fuscous-tinged; all these darker areas edged by white lines, traversed each by a black thread; edge of basal patch curved and waved; inner edge of central fascia waved; outer line lunulate-dentate, the teeth pointing basewards, indented beyond cell and on submedian fold; a dark linear cell-mark; submarginal line, sometimes obscure, forming the limit of a large triangular dark patch between apex and vein 4 and lunulate-dentate thence to anal angle; fringe chequered, dark and light brown.

Hindwing: dark fuscous brown; the cell-spot dark; fringe pale, with dark spots.

Underside of forewing dull brownish grey; costal edge dotted with dark; an orange subcostal streak; cell-spot dark; markings partly showing through. Hindwing paler, with brownish striae; a dark cell-spot, and traces of a dark postmedian line.

Head, thorax, and abdomen chestnut-brown; antennae dark fuscous; abdominal scales and tufts ochreous.

Expanse of wings: 30 mm.

3 ♂♂, 4 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, November, December 1901 (Ockenden).

118. **Hypolepis conspersata** spec. nov.

Forewing: dull brown, with darker, more fuscous, markings; basal patch small, fuscous, edged by a white, black-bordered, nearly vertical line; central fascia fuscous, edged on each side by a white lunular line traversed by a black one, the outer edge more or less parallel to hindmargin and indented beyond cell; cell-spot obscure, blackish; space between basal patch and central fascia and that beyond outer band occupied by brown shades; a black sharply lunulate submarginal line, the lunules above vein 4 partially filled in with black; an interrupted black marginal line; fringe yellowish, mottled with dark; the wing, and especially the marginal third, is thickly covered with minute pale and dark striae.

Hindwing: dull brown, paler towards base, with obscurely darker postmedian and submarginal lines from inner margin; cell-spot dark; fringe pale yellow, with dark mottling.

Underside of forewing cinereous, dappled with yellowish; an orange subcostal streak; cell-spot dark, followed by a pale patch; hindmargin above middle darker. Hindwing yellowish, striated with brown, with two slightly marked lines; cell-spot linear, conspicuous.

Head, thorax, and abdomen fuscous brown.

Expanse of wings: 29 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

Very near to *H. castanea* and *sordida*, but apparently distinct.

119. **Hypolepis plumbescens** spec. nov.

Forewing: pale leaden grey, glossy; the basal patch, central fascia, and marginal area somewhat darker, decidedly darker along the edges, where they are mixed with brown, and all edged with a paler line; basal patch small, its

edge wavy, vertical; inner edge of central fascia, sinuous, vertical, at one-third; outer edge from two-thirds of costa to three-fifths of inner margin, projecting at veins 6 and 4, sinuate between and on submedian fold; marginal area above vein 4 much darker, forming a large triangular projection beyond cell and a smaller rounded one above vein 6; antemarginal space pale yellow with a darker yellow shade down it; three pale grey streaks on costa before apex; fringe yellow and grey; costa finely dotted with yellow.

Hindwing: pale yellowish, tinged with pale grey, except along a broad postmedian curved band; cell-spot faint; fringe yellowish.

Underside pale leaden grey; costa dotted with yellow; an orange subcostal streak from base to apex; the apical veins orange; an oblique pale straw-coloured outer band; cell-spot black; fringe yellow, dotted with grey. Hindwing whitish, striated with grey; a blackish cell-spot and broken postmedian line, followed by a broad yellowish band; veins and fringe yellow.

Head, thorax, and abdomen yellowish; face brownish grey; tibiae and tarsi of fore and middle legs brown-speckled.

Expanse of wings: ♂ 22 mm.; ♀ 26 mm.

1 ♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

120. **Hypolepis prunicolor** spec. nov.

Forewing: dark violet-grey, the markings deep purple-brown, narrowly and obscurely edged with golden yellow scales; basal patch quite small, purple-brown; followed by a broad band of the ground colour, the centre of which is occupied by a dark band marked by a deep blotch on costa and inner margin but interrupted in middle; all these dark markings edged with deep yellow scales; central fascia with inner edge straight and oblique from just before middle of costa to before middle of inner margin, its outer edge diffuse, projecting on vein 6 and at middle, from two-thirds of costa to just beyond middle of inner margin, where the fascia is narrow; the inner half of the fascia only purple-brown; beyond the second band of ground colour the outer line is waved and partially lunulate; submarginal line lunulate, the lunules filled up with purple-brown, that beyond cell large and coalescing with the lunule of outer line; fringe yellow, with purple-brown mottling beyond veins.

Hindwing: wholly dark brownish fuscous.

Underside of forewing purplish grey, the costa speckled with deep yellow; a dull orange subcostal streak. Hindwing yellowish, with long dull purplish grey striae; a postmedian band and hindmarginal border purplish grey; cell-spot linear, velvety black.

Head, thorax, and abdomen purplish brown; palpi deep dull yellow; abdomen beneath and legs dull yellow; foretibiae and tarsi mottled purplish and yellow.

Expanse of wings: 23 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

121. **Hypolepis sordida** spec. nov.

This species is very near to *H. castanea* Warr., but differs in the following points. The red-brown tinge of *castanea* is replaced by dark fuscous; the inner edge of central fascia is less acutely angled at median, the upper half being more

vertical; the outer edge of central fascia is nearer the hindmargin, the double white line following it plainer, more evenly curved, not so sinuous; the triangular dark subapical blotch larger, its apex reaching outer line. These differences appear to be constant in the two forms. The hindwing of the ♂ has a similar hyaline space near base below submedian fold to that shown in *castanea*.

1 ♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden); of the same size as *castanea* and taken at the same time and place.

122. **Hypolepis strigosa** spec. nov.

Forewing: velvety brown; the costa dotted with orange, the veins marked with dull orange, vein 4 with bright orange, with a short oblique white dash from its base into the cell; basal and inner lines straight, double, pale grey, with a dark central line, meeting on inner margin and forming a rough V; outer line double, from three-fourths of costa, slightly bulged beyond cell, then waved inward to two-thirds of inner margin; submarginal line also double, its arms rising, one before, the other at the apex, coalescing with each other and touching the outer line beyond cell, then running out, and forming a sharp tooth on hindmargin at vein 4, thence lunulate and sharply dentate to anal angle; fringe black-brown, with orange spots at base at the vein-ends, and also mottled with orange.

Hindwing: black-brown, with a deep black cell-spot; fringe mottled, black and dull yellow.

Underside of forewing dull blurred grey; a broad orange subcostal streak, and the veins towards margin irregularly orange; cell-spot and two subcostal marks towards hindmargin black. Hindwing with the costal and subcostal veins orange, the disc sprinkled with white scales; cell-spot, a waved post-median line, and indistinct submarginal line black; fringe of both wings mottled, black and orange.

Head, thorax, and abdomen dark brown-black; palpi internally yellow; antennae yellow, spotted with black; legs fuscous and orange; spatulate scales of abdomen beneath fuscous and dull yellow, the tufts of hair black.

Expanse of wings: 28 mm.

1 ♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The ♀♀ are slightly paler, with the veins less distinctly marked.

123. **Lampropteryx trilineata** spec. nov.

Forewing: ashy grey, with a slight slate-coloured tinge; a small dark basal patch; central third of wing occupied by a slaty grey fascia, edged by thick wavy black lines, and traversed at middle by another similar, all three swollen on costa and thicker above middle, the outer one only slightly prominent at vein 4; followed by a pale band with central grey line; the marginal area brownish grey with a fine pale waved submarginal line, preceded on costa by a dark blotch; a distinct marginal black line, interrupted at the veins; fringe rufous grey, with faint mottlings; cell-spot small, black, on median line.

Hindwing: dull grey, with the lines of forewing reproduced, but very faint.

Underside paler grey: forewing with four black costal spots, one near base,

and one at the commencement of each of the lines, except the first of the fascia : cell-spots, outer, and submarginal lines marked in both wings.

Head, thorax, and abdomen grey.

Expanse of wings : 35 mm.

1 ♂ from South Park, Colorado, August 1901 (Oslar).

A very well marked insect, but I cannot find any description of it ; it may, however, be an extreme individual of the N. American form of *abrasaria* H. S., described by Packard as *Cidaria nigrofasciata*.

124. **Oligopleura biplagiata** spec. nov.

Nearest to *O. aulacata* Feld. and its aberration *diversicolor* Warr., which I am now inclined to regard as itself a distinct species, inasmuch as the numerous examples which I have seen since the original description are all constant, and show no evidence of intermediate variation. In *diversicolor* the olive-greenish ground colour is divided at the middle of the central fascia by a broad ochreous band running through from costa to inner margin. In the present species the ground colour is olive-green as in *aulacata*, and the outer markings agree with that species ; but there are two pale ochreous patches, one occupying the basal area, the other on inner margin just before middle, and ending at the median vein ; between these two patches is a fascia of five dark lines more or less filled up with olive-green ; the outer three of these lines are oblique and straight, running through from costa to inner margin : the inner two are curved outwards slightly and interrupted above the median by an extension of the pale basal patch along the costa ; there is also a small pale space in lower half of cell before the discal spot. The rest as in *aulacata*.

Expanse of wings : 35 mm.

1 ♀ from Marcapata, E. Peru, 4500 ft.

Paromala gen. nov.

Forewing : triangular ; costa nearly straight ; apex acute ; hindmargin obliquely curved.

Hindwing : elongate, as long as forewing ; the apex extending well beyond the anal angle of forewing ; hindmargin curved.

Forehead produced below and scaled ; palpi rough-haired, long, porrect decumbent ; tongue and frenulum present ; antennae (♀) filiform.

Neuration : forewing, cell half as long as wing ; discocellular oblique below : first median nervule at four-fifths, second close before third ; radials normal ; 7, 8, 9 stalked, 10 anastomosing with 11 and again with 8, 9, forming a double areole, which is elongate, both 10 and 11 rising far back ; hindwing, costal anastomosing with subcostal to near end of cell ; 6 and 7 long stalked ; discocellular biangulate, the radial from the lower, outward angle.

The disproportionate size of the hindwing will sufficiently characterise the genus.

Type : *Paromala elongata* spec. nov.

125. **Paromala elongata** spec. nov.

Forewing : whitish grey, very thickly but finely speckled with dark atoms ; no distinct markings ; but the antemedian and postmedian lines are indicated by dark dots on veins, the former curved at one-third, the latter oblique, parallel

to hindmargin, at two-thirds ; fringe concolorous, beyond a hardly darker marginal line ; cell-spot small.

Hindwing : whiter, with hardly any dusting ; a postmedian line of dots.

Underside dark grey, speckled with fuscous ; cell-spots and outer lines marked, the latter very distinct in the hindwing.

Head, thorax, and abdomen pale grey.

Expanse of wings : 24 mm.

1 ♀ from Ecuador.

126. **Perizoma amplata** spec. nov.

Forewing : dull wood-brown, in places fuscous ; the lines paler, slender; basal patch small, fuscous, edged by a curved pale line ; a similarly curved pale line from one-fourth of costa to near middle of inner margin forms the inner edge of the central area ; outer line from two-thirds of costa, outcurved to vein 4, then incurved, dentate inwards on the veins, and vertical from vein 2 to inner margin shortly before anal angle ; the inner half of the median area, broadly above middle and narrowly below, fuscous edged with darker ; the outer line is traversed by a darker thread ; marginal area fuscous brown, from apex to outer line at vein 6 black, containing a submarginal line marked by black wedge-shaped marks tipped with white, and joined by fine black dashes with the black marginal line, which is interrupted by pale spots at the vein-ends ; fringe with the inner half dark brown, the outer paler ; cell-spot small, black.

Hindwing : dull smoky brown, with a darker marginal border ; fringe pale dotted with darker.

Underside of forewing dull brown, with cell-spot, outer line, and a narrow black blotch on costa before apex ; a submarginal row of white dots. Hindwing speckled with darker, with cell-spot, dark waved postmedian line, and submarginal row of white spots ; patches of black scales along the submedian fold ; the inner margin itself whitish, with its fringe pale brown.

Head, thorax, and abdomen dark fuscous brown, speckled with paler ; the segmental rings of abdomen pale ; legs blackish.

Expanse of wings : 26 mm.

6 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, November, December 1901, January 1902, wet season (Ockenden).

127. **Perizoma aureoviridis** spec. nov.

Forewing : yellowish green, shading into slate-colour towards hindmargin ; the markings olive-fuscous ; a curved band close to base, narrowed to a point on inner margin ; second band sinuous, at one-third, forming the inner edge of the central fascia ; third at two-thirds, bidentate outwards between 6 and 7, the teeth small, and again between 2 and 4, the teeth broad ; this outer band mixed with brownish and lilac grey, and containing two inner lines, the innermost distinct, dark olive ; it is followed by a pale green band with two brownish lines through it, marked on costa close to central fascia with pale yellow ; submarginal line regularly lunulate, pale yellowish green, the lunules partially filled up with greenish, and followed by paler green streaks to hindmargin ; the lunule between veins 3 and 4 ferruginous ; pairs of dark green marginal dashes at the vein-ends ; fringe pale greenish, with two dark green lines, and mottled with darker beyond veins ; cell-spot minute ; space between basal patch and central fascia with its

inner half lilac-grey, the outer half of the pale-green ground colour with two darker lines.

Hindwing: greenish cream-colour, bluish green along hindmargin; traces of two or three curved lines only distinct on inner margin; fringe greenish white.

Underside of forewing mealy green, with the lines of the outer band marked; marginal area paler green; fringe green with dark mottlings: of hindwing yellowish green, rather glossy; the cell-spot and outer line darker.

Head, palpi, and vertex pale mealy green; thorax mixed with darker green; abdomen greyish ochreous with traces of pairs of dark spots along dorsum; fore and middle legs very dark green, with the joints pale; hindlegs paler green.

Expanse of wings: 32—34 mm.

2 ♂♂ from Marcapata, E. Peru, 10,800 ft. (Ockenden).

A remarkably coloured insect when fresh.

128. **Perizoma mirifica** spec. nov.

Forewing: pearl-grey; basal patch and central fascia dark reddish fuscous; the space between dark grey, crossed by lines of orange, grey, and red-brown; the inner edge of the central fascia waved and curved outwards, the outer edge from a little beyond middle of costa, slightly bisinuate in cell and on submedian fold, and projecting between: towards the outer edge the fascia is deepest, towards the inner edge it is varied with orange scales; beyond it is a pale-grey belt, containing three darker grey lines, the first narrow, the second broader and irregular, the outermost lunulate; then come three dentate lines, gilded yellow, separate above but coalescing towards inner margin, the last being the submarginal line, with its teeth in the upper half of wing filled in with blackish; the costal region from outer line to apex gilded yellow; marginal area dark grey; fringe dark grey, with some gilded yellow scales along base and obscure dark marginal spots.

Hindwing: dark grey; fringe and marginal spots as in forewing.

Underside of forewing dark grey to outer line, then paler, darkening again towards hindmargin; costal area broadly brown with yellow freckling; a dark cell-spot; a large vinous-red subapical blotch. Hindwing vinous-red, speckled with grey and yellow, greyer beyond median line; cell-spot dark.

Palpi and vertex fuscous; face whitish grey; thorax, patagia, and basal segments of abdomen red-brown, varied with orange; rest of abdomen grey.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, November 1901, wet season (Ockenden).

An unusually marked species.

Phlebosphales gen. nov.

Apparently a development of *Anticlea*.

Forewing: elongate; costa slightly curved; apex prominent; hindmargin obliquely curved: inner margin very convex, almost lobed in the centre.

Hindwing: with both angles and the hindmargin well rounded.

Palpi long, porrect, drooping; laterally flattened, rough-haired beneath, resembling those of *A. arcillata* Dogn.; antennae ligulate, lamellate; tongue and frenulum present; anal tufts of the ♂ largely developed.

Neuration : forewing, cell not half as long as wing below, only a quarter as long above, the discocellular therefore long and oblique ; first median nervule at two-thirds, second and third from the lower angle ; lower radial from the middle of discocellular, upper from the bent-down end of subcostal ; the stalk of veins 10 and 11 rising near base, that of 7, 8, 9 shortly beyond, and slightly curved upwards, the subcostal being then deflexed ; between 6 and the stalk of 7, 8, 9, the wing membrane is puckered and contorted, mostly scaleless, vein 6 partially crossing it ; 10 anastomoses with 8, 9, forming a single areole ; hindwing normal ; discocellular angulate, the radial from the lower outward angulation.

Type : *Phlebosphales engelkei* spec. nov.

129. **Phlebosphales engelkei** spec. nov.

Forewing : whitish, overlaid with grey and fuscous scales ; the course of the subcostal vein, the edge of the inner margin, and the submarginal line tinged with pale brown ; above the subcostal vein the dark lines and paler intervals are clearly marked along the costa ; below it across the wing the markings are indistinct ; there appear to be two narrow dark lines near base, then a dark grey band containing the blackish cell-mark ; beyond this, at the middle of wing another single dark line, followed by a dark band, narrow at costa and protruding in middle of wing towards hindmargin ; submarginal line close to margin, irregularly dentate, crossing a whitish patch below vein 4 ; a marginal line of black dashes, with white dots at the vein-ends ; fringe dark brown. The scaling generally is glossy.

Hindwing : dull slaty grey, with dark cell-spot, and marginal spots as in forewing.

Underside dull slaty grey, paler in hindwing.

Head and thorax damaged, abdomen cinereous.

Expanse of wings : 28 mm.

1 ♂ from Onaca, Sta. Marta, June to August (Engelke).

The condition of the unique specimen prevents a more accurate description.

130. **Psaliodes acutangula** spec. nov.

Forewing : plum-colour ; the lines yellow ochreous, sharp and straight ; first close to base, outwardly edged with dark vinous ; second from one-third of costa to two-fifths of inner margin, nearly straight, and oblique inwards ; outer line from three-fourths of costa, oblique inwards to vein 6, then running outwards for the same distance along vein 6, very acutely angled towards apex, and oblique inwards to four-fifths of inner margin ; the central fascia along each of its edges is broadly vinous ; cell-spot dark ; the marginal veins are darker, very minutely dotted with pale ; fringe plum-colour, with yellow dots at the vein-ends at base ; costa finely dotted with yellowish.

Hindwing : pinky yellow, becoming plum-colour towards hindmargin ; a broad dark-edged yellow postmedian band, angled at vein 6 and thrown back to costa as a large lunule ; cell-spot linear, blackish ; fringe dark grey.

Underside reddish, the lines all deep yellow.

Head, thorax, and basal segments of abdomen plum-colour ; rest of abdomen cinereous.

Expanse of wings : 22 mm.

1 ♂, 2 ♀ ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, November, December 1901, wet season (Ockenden).

This species is very near *Aglida lignosata* Wlk. which is a true *Psaliodes*; as is likewise Snellen's species *endotrichiata*, wrongly referred by him to Guenée's Ennomid genus *Cyclomia*: and the same applies to Dognin's *Cyclomia magnipalpata*.

131. **Psaliodes albidulata** spec. nov.

Forewing: cream-white; the markings olive fuscous, all more or less broken up by the paler ground colour, but darker along costa; basal patch edged by a thick line oblique inwards; the pale band between it and central fascia occupied by an inwardly oblique dark band, the edges remaining pale; central fascia narrow, oblique inwards to before middle of inner margin, its outer edge insinuate beyond cell and on submedian fold, projecting between; beyond the pale band following it is a double line, of which the outer arm is thick and lunulate; submarginal line broad, insinuate beyond cell, where it almost interrupts the lunulate shade; marginal area consisting of large lunules, that beyond cell twice as large as the others; a fine dark marginal line; fringe cream-colour mottled with fuscous; cell-spot small in the central fascia.

Hindwing: tinged with ochreous grey, with a central, double submarginal, and a marginal band dark grey; marginal line dark; fringe ochreous.

Underside duller, with similar markings: forewing with a deep yellow subcostal streak; veins 6, 7 and the stalk of 8, 9, 10 also yellow. Hindwing with the veins yellow; the ground colour pale ochreous with fuscous striae and speckles; a paler band between a dark postmedian and submarginal line; cell-spots distinct in both wings.

Head, thorax, and abdomen ochreous, tinged with fuscous; patagia and shoulders fuscous, with the tips ochreous; tarsi externally spotted fuscous and ochreous.

Expanse of wings: 30 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901—January 1902, wet season (Ockenden).

132. **Psaliodes aurativena** spec. nov.

Forewing: with base, central fascia, and marginal blotches dark purplish brown: the median vein and its branches, the submedian, and veins 5, 6, 7 broadly yellow: intervals white, tinged with yellow, all the paler areas thickly freckled with brown: edge of basal patch sinuous, followed by a sinuous white line: central fascia with both edges lunulate between veins, the outer acutely so, preceded by a lunulate, white, brown-edged line, and followed by two acutely dentate, brown-edged white lines; the band between basal area and central fascia yellowish, marked with fuscous striae on costa at its middle; submarginal line white, irregular and broken up: an irregularly lobed triangular purple-brown blotch from apex to vein 4, and a large blotch at anal angle; the submarginal line is preceded by an indistinct series of brown wedge-shaped marks: the central fascia is interrupted by the yellow median vein and marked with white above it: fringe brown, with yellow dashes between the veins.

Hindwing: dark grey, paler towards base, with a dark cell-spot; fringe yellow, mottled with black.

Underside of forewing grey, browner towards apex and speckled with yellow: costal area broadly yellow, the costal edge brown-spotted; all the veins yellowish. Hindwing white, striated with brown; all the veins deep yellow; the cell-spot dark brown.

Face and palpi olive-fuscous; vertex, thorax, edges of shoulders and patagia, and dorsal segments of abdomen yellowish; base of shoulders and patagia fuscous.

Expanse of wings: 30 mm.

4 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6900 ft., November 1901, wet season (Ockenden).

These are probably *Hypolepis*, but in the absence of a ♂ I leave them in *Psaliodes* for the present.

133. **Psaliodes citrinata** spec. nov.

Forewing: straw-colour; the markings dark brownish fuscous; the lines white and pale yellow; the veins yellowish; basal patch edged by a broadish black-brown band; central fascia narrow, sinuous, from middle of costa to before middle of inner margin, both edges lunulate, the inner irregular, bulged towards base below the median vein; pale space preceding it correspondingly enlarged above the median, its edges white, the centre yellow, limited by pale-brown scales and with some central fuscous scales on costa; outer edge followed by a white and then a yellow line of equal width separated by a pale-brown line, the yellow succeeded by a fuscous shade forming lunules or wedges between the veins edged by the whitish submarginal line; a pale oblique space from apex; a large fuscous-brown triangular blotch from apex to vein 4, and a double lunulate brown blotch at anal angle, the lunule between 3 and 4 remaining pale with dark outline; marginal line brown; fringe yellow, mottled with dark brown; in the fuscous central fascia, lying on the median vein, is an elongate yellowish-white blotch below the obscure dark cell-spot.

Hindwing: grey-brown, with brown cell-spot and an indistinct brown median line; the marginal border darker; fringe pale with dark brown mottlings.

Underside of forewing dull grey, the costal area yellowish, with darker speckling; a yellowish outer line and pale streak from apex; cell-spot black; fringe yellow, mottled with brown. Hindwing, yellowish straw-colour, sparsely striated with brown; a brown cell-spot and three brown median spots indicating a central line.

Head, thorax, and abdomen yellowish; base of shoulders and patagia brownish.

Expanse of wings: 26 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Distinguished by the sinuous central fascia with its pale spot, and by the lemon-yellow bands.

134. **Psaliodes clathrata** spec. nov.

Forewing: satiny white; a costal streak, the veins, and fringes yellow; the costal edge minutely speckled with brown; a line of brown speckles along subcostal vein to beyond middle, sometimes slight; the lines red-brown, the inner and ante-median lines vertical, at one-fifth and two-fifths respectively; the inner fine, with a large tooth outwards along submedian fold, the second much thicker, with a

brown blotch externally on submedian fold; median line double, sinuate, from two-thirds of costa to middle of inner margin; the inner arm red-brown, thickened in cell and on submedian fold, connected with antemedian line by a line along the cell-fold, the outer arm paler and finer, distinctly and regularly lunulate-dentate; exterior line parallel to hindmargin, crenulate, also double, the inner arm darker; submarginal line formed by a series of brown lunulate marks, that beyond cell large, reaching exterior line and connected with median line by a red-brown streak along vein 5; slight lines of brown dots along hindmargin, and sometimes along the yellow veins; fringe finely intersected by brown beyond veins.

Hindwing: with very faint cell-spot, middle and outer curved lines, and slight brown marginal line before the yellow fringes.

Underside of forewing yellow, with the markings faint and blurred; of hindwing white, with the markings brown and clear.

Head, thorax, and abdomen yellowish; the head parts, shoulders, and patagia somewhat deeper.

Expanse of wings: 28—30 mm.

4 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

135. **Psaliodes fractilinea** spec. nov.

Forewing: violet-grey-brown; the lines black-brown; veins towards hindmargin dotted with dark and light scales; costal area in apical half of wing broadly whitish; first line oblique inwards, from one-fourth of costa to one-sixth of inner margin, the included basal area wholly violet-grey; second line, parallel to first, from middle of costa to two-fifths of inner margin, forming three slight curves concave outwards, interrupted on subcostal vein, the violet-grey space between the lines becoming whitish along first line, with a fine line from inner margin; space immediately beyond second line below subcostal vein broadly white, containing a fine dark wavy line; outer line from nearly three-fourths of costa, oblique outwards at first, then nearly vertical, and again from vein 5 to outer margin below vein 4 oblique, this lower portion followed by a dead-white streak, containing two fine dark lines; the whole of the marginal half violet-brown, deepening towards margin, containing two horizontal velvety black streaks, one wedge-shaped, from end of cell to outer line between veins 4 and 5, the other above submedian fold; fringe brown, speckled with white in places, wholly white at vein 4.

Hindwing: dingy white, with slight cell-spot and traces of the commencement of dark postmedian and submarginal lines on inner margin; fringe concolorous, with dark mottlings at the ends of veins.

Underside of forewing dull grey, with a slight violet tinge; two broad oblique dark shades near base; a dark waved postmedian line, vanishing below middle; costal edge dotted black and white; veins towards apex the same; fringe black-brown, mottled with white between veins above vein 3. Hindwing paler, faintly freckled; cell-spot, dentate postmedian line, and base of fringe black.

Palpi very long, white, outwardly towards base sprinkled with fuscous; face white, varied with blackish; collar white, tipped with dark; shoulders and patagia white with brown lateral patches; thorax and basal segment of abdomen white, divided by a black ring; rest of abdomen violet-grey; anal hairs ochreous; pectus and all the femora yellow; rest of legs black, thickly speckled with ochreous.

Expanse of wings : 30 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

This species stands quite by itself.

136. **Psaliodes ignivenata** spec. nov.

Forewing : dark brown ; the lines white ; the subcostal vein broadly, the median and all the veins in the marginal half of wing fiery red ; the costal edge brown, with pale dots showing the commencement of the lines : basal line marked only by a spot at base of cell and a fine line below the median vein ; inner line broad, obliquely sinuous from upper margin of cell, its upper part with some grey scales on it ; outer line, narrower, from costa at nearly three-fourths, strongly outcurved between veins 7 and 3, insinuate between 3 and 2, and again outcurved in submedian interval ; an oblique white dash on the lower arm of discocellular ; the outer line is followed by two fine lunulate lines ; submarginal line lunulate, preceded and followed by dark brown shading ; an oblique white streak from apex and some white spots between veins just before the margin, those between 1 and 2 and 3 and 4 larger : all the outer lines are interrupted by the red veins ; fringe glossy whitish, with black chequerings at the veins.

Hindwing : dull dark grey, with a dark cell-spot, a dark median line outcurved at middle, and dark marginal shade ; fringe as in forewing.

Underside of forewing blurred grey ; a broad subcostal orange-red streak, and the apical veins orange ; the cell-mark and the outer lines beneath the costa white. Hindwing white, striated with grey ; the base of costa orange ; cell-spot, a curved median line, and macular submarginal shade darker.

Palpi, head, thorax, and abdomen above fiery red, the thorax varied with dark ; segmental rings of abdomen whitish.

Expanse of wings : 26 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

137. **Psaliodes inferna** spec. nov.

Forewing : dark brown-black ; costa minutely dotted with white ; the lines white ; first narrow, obliquely curved, close to base ; second, much broader, yellowish white, from below one-third of costa to one-third of inner margin, edged outwardly with black, and emitting a pale tooth inwardly along the median vein towards first line ; outer line slender, from two-thirds of costa, slightly oblique inwards to vein 6, then outwards to vein 4, below which it is obsolete ; a few pale submarginal scales between veins 3 and 4 ; fringe concolorous, with some pale scales along base, and a white patch between 3 and 4.

Hindwing : entirely smoky brown-black ; fringe chequered with darker.

Underside of forewing lavender-grey ; costa speckled black and white ; a bright orange subcostal streak ; second and outer line both showing whitish ; a submarginal whitish-edged black blotch from the costa, approaching outer line at vein 4 ; fringe dark grey, with a white blotch between 3 and 4. Hindwing, whitish, freckled with grey ; a large brown cell-spot, a brown blotch below it on submedian fold, and a thick brown wavy postmedian line ; fringe chequered, dark and light.

Head, thorax, and abdomen brown, varied with pale scales.

Expanse of wings : 17 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

138. **Psaliodes miniata** spec. nov. and ab. **fuscata** nov. and **pallida** nov.

Forewing : with the base and central fascia coppery brown ; a broad subcostal streak bright coppery red ; the costal edge dotted with black and ochreous ; basal patch edged by a straight dark line, mixed with a few white scales ; band between base and central fascia bright coppery red with its centre fuscous ; central fascia edged with white black-edged lunules ; its outer edge indented below costa, angled on vein 6, and forming a beak-like projection on vein 4, then concave to inner margin, followed by a broadish coppery-red line ; submarginal line very obscure, marked only on costa and above anal angle ; cell-spot blackish, indistinct ; marginal line black ; fringe white, chequered with black.

Hindwing : dull coppery red, with a broad fuscous median band, edged externally with whitish ; a dark cell-spot ; marginal area darker ; fringe as in forewing.

Underside of both wings coppery red ; markings of forewing distinct towards hindmargin. Hindwing with black cell-spot and distinct black-brown median shade edged with white.

Head and palpi ochreous ; thorax and patagia coppery ; abdomen dark cinereous.

Expanse of wings : ♂, 17 mm. ; ♀, 24 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

In the ♂, which is considerably smaller than the ♀, the paler markings are attenuated, the upper half of the outer edge of central fascia is more vertical, and the projection at middle less prominent. In another ♂, however, which must be referred to the same species, the red markings are inconspicuous, and the white markings even more prominent than in the typical ♀ ; in this case the edging of the outer half of central fascia below costa consists of two vertical white streaks, one obliquely below the other, and the hindwing and underside are almost wholly dark fuscous. For this form I propose the name *fuscata*.

A second ♀ differs so much that it may be another species, though for the present I shall separate it only as ab. *pallida*. In this the red is deeper and the fuscous markings blacker, the white markings clearer and more defined ; the lower half of central fascia also much narrower ; the fringe is white, with black base, but without dark mottlings. The hindwing is grey, with darker grey central line and marginal border. Beneath, the forewing is dull dark grey, with the white edgings showing, and only a faint tinge of reddish ; the hindwing much speckled with brownish red and white, and all the markings hidden.

139. **Psaliodes nexilinea** spec. nov.

Forewing : straw-colour ; the median vein and its branches and the submedian pale ferruginous ; the lines darker ferruginous ; a fine slightly curved line near base ; an oblique funnel-shaped narrow fascia at middle, its edges and narrower part below the median darker ferruginous ; a sinuous submarginal line, lunulate

below middle ; a triangular ferruginous-edged patch on hindmargin from apex to vein 4, its apex connected by a ferruginous streak with the central fascia on vein 4 ; some faint striae above anal angle ; fringe straw-colour, with sharply marked black-brown dashes at the ends of the veins.

Hindwing : straw-colour, slightly rust-coloured along hindmargin, with traces of median and postmedian lines on inner margin ; fringe pale, unmottled.

Underside with the markings of forewing pale rusty ; costal half of submarginal line and oblique line from apex dark brown, as are the marginal line and spots on fringe ; costal edge dotted brown and yellow. Hindwing yellow with rusty striae and indications of two curved lines.

Head, thorax, and abdomen straw-colour, with faint rust-coloured scales.

Expanse of wings : 22 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

140. **Psaliodes nictitans** spec. nov.

Forewing : straw-colour, the markings fulvous ; the median and its branches fulvous ; costal vein orange-red ; the costal edge with dark-brown striae ; basal line outwardly oblique, brown, the basal area straw-colour below median, fulvous above ; central fascia with inner edge concave basewards, the outer concave outwards to vein 6, there acutely angled and sinuous to inner margin, where the fascia is only half as wide as on costa ; it is filled up with deep fulvous, darker at its edges, except a pale blotch at end of cell containing the distinct black cell-spot, and towards the costa it is striated with paler ; a fulvous oblique streak from apex and a diffuse subapical cloud join the angle of central fascia and appear to form part of it ; marginal area with a double submarginal sinuous line and a marginal shade, all fulvous ; the band before central fascia is traversed by two curved fulvous streaks ; fringe pale, mottled with black at the vein-ends.

Hindwing : pale straw-colour, with a postmedian fulvous line and slight cell-spot.

Underside of forewing with the subcostal and median veins and sinuous outer line orange fulvous ; the transverse markings on costa and in cell olive brownish. Hindwing with orange-red central line.

Head, thorax, and abdomen straw-colour ; palpi externally brownish.

Expanse of wings : 22 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

141. **Psaliodes ossicolor** spec. nov.

Forewing : bone-colour, the markings olive-brown or olive-fuscous ; the costa fuscous for two-thirds ; an olive-fuscous inwardly oblique line close to base, widened at costa ; an inwardly oblique fuscous fascia from beyond middle of costa to middle of inner margin, its inner edge indented below costa, its outer bulged a middle, more or less interrupted from fold to fold by the pale ground colour ; an indistinct outer line of a few striae ; marginal area with two fuscous blotches ; one triangular from apex to vein 4, the point of the triangle reaching submarginal line on vein 5, the other smaller at anal angle ; fringe bone-colour, with fuscous mottlings.

Hindwing : with the apex and hindmargin slightly grey-tinged.

Underside of forewing dull grey-brown, the subapical area ochreous; a broad orange subcostal streak, and the upper veins yellow; fringe yellowish, with fuscous chequerings. Hindwing bone-colour, with fuscous striae along inner- and hindmargin, and a narrow central line.

Head, thorax, and abdomen bone-colour; antennae fuscous.

Expanse of wings: 23 mm.

2 ♂♂, 4 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

In the paler examples the markings are pale olive-brown, and the striae more numerous.

142. **Psaliodes pervasata** spec. nov.

Forewing: costal area vinous brown, striated with yellowish; the area between veins 2 and 3 and half of that between 3 and 4 vinous brown, the three median nervules marked with black and light dots; the markings velvety blackish; the lines bright cream-colour; a thin obscure sinuous basal line; an oblique broad cream-coloured band from below middle of costa to before middle of inner margin, with two waved dark lines down it; the space between it and basal line below the median black-brown, its outer edge also above the median, and forming an acute angle outwards in cell, with a pale spot in cell before it; central fascia black-brown from subcostal to below vein 4 and again below vein 2, where it is much narrower: it is edged outwardly by a broad cream-coloured line, then a fine dark line, and another fine cream-coloured line; submarginal line cream-coloured, lunulate, meeting an oblique pale streak from apex, which edges an irregular velvety-black triangular blotch; the submarginal line has its pale lunules filled up with black, and on vein 4 forms a beak-like projection towards hindmargin; both the central fascia and the pale lines edging it are interrupted by the vinous-brown space above vein 2; fringe mottled cream-colour and black.

Hindwing: dull grey, darker towards hindmargin, with a dark cell-spot and fine black crenulate marginal line; fringe straw-colour, with black dashes beyond the veins.

Underside of forewing dull grey, with the pale markings showing through in places; costal area broadly yellow with grey striations; apical area darker grey with pale striae, the apical veins yellow; fringe mottled yellow and black. Hindwing white, with strong brown striations and indications of two lines; the cell-spot brown; base of costa and subcostal area beyond broadly yellow; fringe yellow, unspotted.

Face, palpi, and shoulders yellow; some dark scales between antennae; patagia fuscous and yellowish; abdomen rufous, the thorax whitish; the tarsi and spurs dotted dark and light; antennae dark, mottled with yellowish.

Expanse of wings: 32 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

143. **Psaliodes picta** spec. nov.

Forewing: with basal area, the central fascia, and a triangular costal blotch before apex olive-fuscous; subcostal vein finely orange-red; the central fascia forming a prominent beak at vein 4 towards hindmargin; its edges darker and mixed with orange-red, preceded and followed by broad but irregular white lunules:

the basal area confusedly mixed with orange and white; submarginal line broken up into irregular white patches, edged with black and orange; a large dark cell-spot; fringe white, chequered with dark.

Hindwing: whitish, with the base, a central band, and the marginal border diffusely grey, the hindmargin with some orange scales; a distinct cell-spot; fringe as in forewing.

Underside of forewing with the markings reproduced, and towards the hindmargin very distinct. Hindwing white, washed with orange and striated with brown; cell-spot brown; a diffuse brown median line and finer submarginal line, both outwardly white-edged.

Head, thorax, and abdomen a mixture of ochreous, orange, and fuscous scales, the abdomen more fuscous.

Expanse of wings: 20—22 mm.

1 ♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden), *type*.

1 ♂, Chulumani, Bolivia, December 1901, 2000 m. (Simons), larger and duller than the Peruvian examples.

144. **Psaliodes planiplaga** spec. nov.

Forewing: bone-colour, tinged with ochreous: the markings chocolate-brown; basal patch small, filled up with brown only above median vein, but edged by a brown line which reaches inner margin, inbent below median; central fascia with its inner edge straight and oblique, from two-fifths of costa to two-fifths of inner margin; outer edge from two-thirds of costa, parallel at first to the inner edge, then curved outwards and forming a beak on vein 4 with a deep sinus below to inner margin at three-fifths; along the costa the brown of the fascia is nearly obliterated by the ochreous-tinged ground colour; cell-spot oblique, dark brown, preceded by a whitish horizontal streak from inner edge of fascia; band before fascia tinged along its centre with ochreous; space beyond fascia traversed by two brownish lines, the outer thicker, both bent outwards below middle; a subquadrate chocolate-brown blotch below apex, and smaller dark blotches between 2 and 4 at the margin; the veins ochreous; fringe pale, chequered with brown.

Hindwing: pale, with the hindmargin ochreous, containing a paler band; fringe pale.

Underside of forewing with all markings dull grey; a broad orange subcostal streak; cell-spot and the chequering of the fringe dark brown. Hindwing pale, striated with brown, with cell-spot brown, and traces of two curved lines, marked by brown spots on costa and submedian fold.

Head, thorax, and abdomen ochreous.

Expanse of wings: 24 mm.

1 ♂ from Costa Rica, 1500 m. (M. de Mathan).

In colour of ground and markings much resembling *Ps. liseva* Dogn., which was also sent from Costa Rica, but the pattern of markings entirely different.

145. **Psaliodes semirasa** spec. nov.

Forewing: pale flesh-colour; costal margin brown for two-fifths; from it two brown vertical lines: the first, close to base, single; the second, from one-third, double; a small brown cell-spot; some dark scales round apex, and a

black spot before margin between veins 6 and 7 ; a dark marginal line below apex ; fringe concolorous.

Hindwing : paler at base, flesh-coloured towards margin ; on inner margin at middle the commencement of a brown central line and a dark shade at anal angle ; a small dark cell-spot.

Underside faintly speckled with dark ; a brown blotch at base of costa, and brown outer line from costa to cell ; the cell-spot, an apical spot, and the spot above vein 6 brown. Hindwing with brown striations ; a brown cell-spot, and traces of median and submarginal lines.

Head, thorax, and abdomen flesh-colour ; the face and vertex marked with brown ; the shoulders wholly brown.

Expanse of wings : 19 mm

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

146. **Psaliodes serratilinea** spec. nov.

Forewing : pale brown, the markings dark brown, all distinctly edged with white ; basal patch with outer edge curved, projecting above median vein ; inner edge of central fascia at two-fifths, waved and oblique, indented slightly on the folds ; centre of band preceding fascia pale brown, edged with a dark-brown line before the white lines edging the basal patch and central fascia ; outer edge of fascia crenulate, sinuous, followed by a broad white line divided by a brown one, projecting a sharp tooth inward on vein 7 ; space beyond irregular, dark brown below costa, paler brown below median, edged below costa by a fine, acutely zigzag white line ; the dark marginal area broadly edged inwardly with white, the interval on margin between veins 3 and 4 pale ; the veins pale yellow in marginal half ; fringe mottled yellow and brown ; within the inner edge of central fascia above vein 4 is a small horizontal curved white spot.

Hindwing : pale grey-brown, with traces of cell-spot and two darker curved lines beyond middle.

Underside pearl-grey, with the outer line and cell-spot darker ; a broad orange subcostal streak ; the apical veins orange, speckled with dark. Hindwing yellowish, striated with brown ; cell-spot and two outer lines brown.

Head, thorax, and abdomen yellow and pale brown ; the shoulders and patagia pale brown with yellow tips.

Expanse of wings : 25 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

147. **Psaliodes siennata** spec. nov.

Forewing : dark brown ; the lines ochreous, diffuse ; a sinuous line near base ; an oblique fascia before middle with a brown thread through it, slightly bent outwards at middle and interrupted below median vein ; an outer sinuous fascia, also interrupted below middle, and followed above median, where it is somewhat excurved, by a subquadrate pale blotch ; an interrupted submarginal line, forming a short oblique streak on costa before apex, a lunule beyond the subquadrate blotch, and two or three spots above anal angle ; fringe chequered, ochreous and brown.

Hindwing: snuff-coloured brown, with a slight coppery tint, darker towards hindmargin, with faint traces of a dark postmedian line and marginal band; cell-spot large and brown; fringe pale, mottled with darker.

Underside of forewing paler brown, with fine white striae; the ochreous markings yellow-tinged; an orange-red subcostal streak, and the veins towards apex orange. Hindwing ochreous, thickly striated with brown; a dark-brown cell-spot and curved postmedian line; a dull orange subcostal streak as on forewing.

Head, thorax, and abdomen brown, varied with ochreous scales; the abdomen almost wholly dark; anal tufts of the ♂ very large, dull ochreous.

Expanse of wings: 26 mm.

3 ♂♂, 3 ♀♀, from Santo Domingo, Caralaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

148. **Psaliodes subfulvescens** spec. nov.

Forewing: whitish, the ground colour remaining clear only as an antemedian and a postmedian oblique band, the latter interrupted between veins 2 and 4 and above 6; the rest of the wing overlaid with dull yellowish brown, tinged towards hindmargin with purplish grey; the basal area crossed, apparently, by two darker waved lines; the central fascia narrow at inner margin, widening above vein 2, and very broad on costa: a wavy dark submarginal line, most distinct across the white band: marginal area dark, interrupted on veins 4 and 5 by a pale patch connected with the white band beyond cell; a pale patch on costa before apex; an oblique brown cell-spot on the inner edge of the central fascia; marginal line dark; fringe whitish, mottled with brown.

Hindwing: suffused and striated with violet-brown, with cell-spot and darker median line.

Underside suffused with purplish grey and irregularly striated with fulvous-brown; costa minutely dotted with whitish and fulvous; subcostal area and a costal spot before apex yellow: a tawny bluntly angled postmedian line; the dark and light markings of the upperside showing through. Hindwing whitish striated with purplish grey, and with fulvous striae at base and along costa, before postmedian line and along submarginal line; cell-spots on both wings fulvous brown.

Head, thorax, and abdomen pale fulvous and grey.

Expanse of wings: 26 mm.

1 ♂ from Bulim, N.W. Ecuador, 160 ft., January 1901 (Flemming and Miketta).

Hindmargin of both wings crenulate. The specimen is slightly worn, but appears quite distinct.

149. **Psaliodes trilunata** spec. nov.

Forewing: chalk-white, grey-speckled: markings dark purplish grey, all paler below middle; edges of basal patch and central fascia all curved more or less parallel to hindmargin and all edged with a white dark-edged line: centre of pale band before fascia traversed by an ochreous-grey shading: edges of central fascia both waved, and indistinctly lunulate; outer line dark below costa only; marginal area above middle formed by three lunules increasing in size, each with a pale and dark lunular base; those below middle small, obsolescent, or with merely a dark edge; fringe white beyond a dark marginal line, and

mottled with dark; the inner edge of central fascia, even above the middle, partly excavated.

Hindwing: white, with dark-grey cell-spot, postmedian and submarginal lines; a fine dark-grey marginal line; fringe white.

Underside whitish, with thick dark-grey striae between veins towards apex; these veins orange, like the broad subcostal streak; cell-spot and marginal line blackish. Hindwing white with sparser grey striae, a cell-spot, and traces of two outer lines.

Head, thorax, abdomen, and legs white, speckled with dark.

Expanse of wings: 22 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

150. **Psaliodes tripartita** spec. nov.

Forewing: with basal area, central fascia, and marginal border purplish brown, the band preceding fascia whitish, that following it wood-brown; edge of basal patch vertical and straight at one-fourth; inner edge of central fascia parallel, outer edge from two-thirds of costa, oblique outwards and projecting bluntly at vein 4, then waved and oblique inwards to three-fifths of inner margin; both edges finely margined with white, most marked on the outer edge beyond cell; marginal area edged by deeper lunules below middle, above it swelling out into a large triangular blotch, the apex of which all but touches the projection of central fascia; fringe mottled dark and light; costa apparently slightly paler and mottled with dark speckles; veins paler, with dark speckles.

Hindwing: uniform dull grey-brown; fringe mottled.

Underside of forewing with the markings shining grey, the subapical blotch purplish; subcostal region broadly yellow. Hindwing whitish, with brown striations; traces of two curved outer lines; cell-spot conspicuous, black.

Face and palpi ochreous grey; shoulders and patagia dark purplish brown, tipped with pale; abdomen like hindwings.

Expanse of wings: 22—25 mm.

2 ♀♀, one from Caradoc, Marcapata, February 1901, 4000 ft. (Ockenden), *type*, the other, worn, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

151. **Psaliodes tripita** ab. **corrosa** nov.

P. tripita was described by M. Dognin from a single ♂ from Loja, Ecuador. Of nine examples from Santo Domingo, S.E. Peru (four ♂♂, five ♀♀), most exhibit a marking not noted by him—viz., the filling up of the space between veins 3 and 4 of the forewing, as far as submarginal line, by a more or less developed streak of pale scales; the ♀♀, which also have the hindwing darker than the ♂♂, are on the whole darker in the forewing and show this peculiarity least: in the ♂♂ the streak is sometimes ochreous, sometimes whitish, and at others orange, and generally veins 3 and 4 themselves, more rarely vein 2 as well, are coloured similarly. In the ♂ example, to which I give the name *corrosa*, this tendency is exaggerated; here the whole space between veins 2 and 4, as well as a slight distance above and below them, is filled with dull white scales nearly reaching the hindmargin, obliterating all the markings, and at first giving the impression of the wings having been rubbed.

All the examples were taken between November 1901 and January 1902 in the wet season (Ockenden).

152. **Psaliodes vinosata** spec. nov.

Forewing: vinous fuscous; the lines white: basal line obscure, indistinctly double, vertical: inner line double, nearly vertical: outer line from nearly three-fourths of costa, oblique inwards and indented on vein 7, outcurved to vein 3, then lunulate inwards, and forming an acute inward angle on submedian fold, edged by a fine black line, and this again in its lower course by a second white and black line: central fascia deeper vinous: submarginal line hardly expressed; marginal line black: fringe whitish, mottled dark beyond veins.

Hindwing: dull grey, darker towards hindmargin, with a dark cell-spot, and traces of two dark lines on inner margin above anal angle; fringe as in forewing.

Underside of forewing blurred grey; an orange-red subcostal streak; a short thick dark streak from costa before apex; apical region striated with pale; marginal line and fringe as above. Hindwing white, thickly striated with grey; cell-spot large, blackish: a lunulate-dentate curved postmedian line and traces of a submarginal beyond.

Head, thorax, and abdomen vinous fuscous.

Expanse of wings: 22 mm.

1 ♀ from Agualani, S.E. Peru, 10,000 ft., September 1901 (Ockenden).

153. **Pterocypha abbreviata** spec. nov.

Forewing: fuscous; the lines and markings blackish; basal area to one-half of wing covered with an olive-grey pile; basal patch small, edged by two dark lines; the usual central fascia placed before the middle, the lines forming its limiting bands meeting at costa to form two blackish triangular blotches; the space beyond it, between middle of wing and submarginal line, is traversed by three acutely dentate dark lines, which below the middle form dark and pale dashes on the median nervules; submarginal line irregularly waved, preceded and followed by darker tints; a short black apical streak of two lunules; marginal festoon black; fringe dark fuscous.

Hindwing: fuscous; with a blackish straight postmedian line, followed by traces of three other dark lines in the dark fuscous marginal area; fringe pale round apex.

Underside ochreous grey with dark speckling; both wings with black cell-spots and three black curved postmedian lines, the outermost thickest and irregularly crenulate; forewing with black submarginal band separated by a pale submarginal line from the black-speckled marginal area, which has no pale spaces at apex or middle; hindwing paler throughout.

Head and palpi fuscous; vertex pale olive; thorax and abdomen olive, much mixed with fuscous and black; the segments of the abdomen obscurely black-spotted.

Expanse of wings: 44 mm.

2 ♂♂ from Sapucay, near Villa Rica, Paraguay, August and September 1901 (Foster).

Distinguished by the position of the central fascia, and by the broad short forewings with rounded apex; also by the absence of the white apical spot beneath. In another example the forewings are tinged with olive-green and flesh-colour, and all the markings are clearer.

Rhinura gen. nov.

Forewing: very broad, triangular: costa strongly arched, but slightly inflexed before middle; hindmargin with a blunt angulation at vein 4, concave above to vein 7, which is also slightly toothed below apex.

Hindwing: with apex rounded, slight teeth at veins 6 and 4, and a short curved tail at vein 3, thence to anal angle twice excavated.

Palpi porrect, the second segment long, rough-haired, third segment short, pointed, and smooth; tongue and frenulum present; antennae simple.

Neuration as in *Psaliodes*.

Type: *Rhinura variegata* Warr. (*Plemyriopsis*).

It is necessary to remove this species from *Plemyriopsis*, with which it has no true affinity.

Rhodomena gen. nov.

I find that several species of *Hydriomena* from South America differ from typical members of that genus in the shape of the palpi. In these the second segment is much elongated, curved above, and quite narrow where it rises from the first segment, the third segment short, decumbent; the palpi are porrect, laterally flattened, and rough-haired above and below; externally, in all cases examined, they are metallic dark green in colour. Moreover, in all the species which possess palpi of this structure, the metathoracic tuft is of the same metallic lustre. The two species *praelatata* and *praemundata* described by me both belong to this genus, and I propose *praelatata* as type. Both were originally described from ♂♂: I have since seen ♀♀ of both; that of *praelatata* agrees with the ♂ entirely; the single ♀ of *praemundata* seen differs from the ♂ in having the space beyond the cell and beyond the middle of the submedian interval suffused with reddish; this may not, however, prove a sexual difference.

154. **Rhodomena lichenosa** spec. nov.

Forewing: olive-green: the lines and bands purple-brown; extreme base dark; basal line thick, projecting on median vein, followed by a similarly shaped band with darker edges, almost interrupted in the cell; median line indented in cell and thickened into a blotch on submedian fold; postmedian line indented beyond cell, angled outwards above and below: submarginal band united to a blotch from apex, almost interrupted at middle and enlarged above; a marginal line of brown triangles at the end of veins; fringe brown: the central space is white, sprinkled with green scales, and more or less tinged with pink.

Hindwing: dull grey; fringes darker.

Underside dull greenish grey, with an under-tint of pinkish; costa of forewing marked with six dark greenish blotches, the intervals cream-colour, all becoming diffused as they descend from the costa.

Face cream-colour with two dark spots above; palpi dark green; vertex, thorax, and patagia dark and light green; abdomen cinereous, the segments of dorsum marked with dark and light green; metathoracic tuft dark green.

The single ♀ has the green and pink tinges deeper; the hindwing darker grey.

Expanse of wings: ♂, 32 mm.; ♀, 35 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901—January 1902, wet season (Ockenden).

The species can be recognised, independently of its coloration, by the angulations of the postmedian line. The median line appears variable: in the whiter ♂ it is strongly bulged outwards below middle, while in the ♀ it is sharply angled outwards on the submedian fold, nearly straight from the angle to the costa.

Rhodomena roseoviridis spec. nov.

Forewing: olive-green: the lines dark brown; the whole middle third of wing occupied by an irregularly oval bright pink space, edged by the third and fourth lines; base itself black; first and second lines broadly blackish on costa and at inner margin, more or less obsolete between; the third and fourth lines irregularly waved, both swollen at costa; submarginal band waved externally, broad at costa and above middle, just touching a large apical blotch, and with a blotch to hindmargin at vein 2; marginal line black, swollen into triangles at the veins; fringe dark grey: the green intervals are centred with darker green.

Hindwing: dark slaty grey; fringe concolorous.

Underside blackish grey; darker towards costa, which is marked by three black blotches in the apical half of wing, the apical large, the middle one produced as a dark band across wing; all three preceded by cream-coloured blotches, the outermost one uniting with a blotch along hindmargin below apex. Hindwing with an indistinct paler band before the hindmargin.

Face pinkish ochreous, with two dark spots above; vertex dark, fringed with pink scales; collar faded green; thorax and patagia yellow-green; palpi, shoulders, and metathoracic tuft metallic blue-black, as are the dark spots on face and vertex; abdomen dark cinereous slate-colour.

Expanse of wings: 36 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

An exceptionally handsome insect, allied to *R. lichenosa*.

156. Rhopalista dismutata spec. nov.

Forewing: greyish or ochreous flesh-colour in basal half, shading into dull olive towards hindmargin; the lines blackish, in places ill-defined and irregular; four equidistant lines in basal area, the two outer angled in cell, all more or less obsolete below median and quite obsolete below submedian vein; the edges of the central fascia consist each of two lines: the two inner widely divergent on costa, where they include a third line, and parallel below middle of cell; the outer two outcurved round cell and approaching the inner lines toward inner margin; these are followed by a dark line forming two large prominent teeth on veins 6 and 4, then incurved and running close and parallel to the other two, separated from them in submedian interspace by white or pale scales; then a dark grey line, similarly angled, but indistinct except in submedian interspace, where it is black and thick; a third similar line, distinct and black, is strongly marked on costa and in submedian interspace, its costal area forming a semicircular mark by its junction with an oblique streak from apex; submarginal line whitish, finely zigzag, and tipped at the angles with

black, preceded by a darker blotch beyond cell and in submedian interspace; pairs of black dashes along margin at end of veins, which are here finely black; fringe olive-green, black-mottled beyond veins; cell-spot linear, blackish; the submedian fold and vein are both dotted with black, and there is a projecting tooth of black scales from the middle of inner margin.

Hindwing: whitish towards costa, pale flesh-coloured ochreous tinged with grey along inner and hindmargins; the tuft of hairs in fold ochreous like the ground colour.

Underside of forewing pale grey, somewhat glossy, without markings, except along costa and hindmargin; of hindwing ochreous as above. Thorax and abdomen ochreous and grey; face pale ochreous; palpi olive fuscous.

Expanse of wings: 28—30 mm.

2 ♂♂ from Tucuman, October 1901, 700 metres (Dinelli).

Probably a variable species, as the only two examples differ considerably. The scheme of markings is somewhat involved, and they are moreover obscured by grey and olive patches of shading. To some extent the description of *improbaria* Schaus agrees with them, but the hindwings are totally different in coloration.

157. Spargania daira.

Epicrhoë daira Druce, *Biol. Centr. Am., Lep. Het.* ii. p. 166. t. 56. fig. 26. ♂♀. Mexico.
Spargania bellipicta Warr., *Nov. Zool.* viii. p. 468. ♂♀. Colorado.

The discovery of the identity of these insects was made accidentally, when I was comparing the types of S. American insects in Mr. Schaus's collection. The figure of *daira* in the *Biologia* does not give a very accurate idea. Mr. Schaus informed me that this is not by any means the only instance in which when collecting at high altitudes in Mexico he has met with insects also taken on the mountains of N. America.

158. Spargania intensa spec. nov.

Forewing: dark olive-green, without any yellow tinge, crossed by deeper green lines which are more or less obsolete, except along costa, where they are represented by black-green spots edged with gilded yellow; these spots are ten in number; three on the basal patch: the 5th and 6th represent the edges of the central fascia; the 4th and 7th, both small, indicate the dark lines of the two paler bands on either side of the fascia; the 8th, 9th, and 10th form the commencement of the usual three submarginal lines; the lines edging the central fascia, and a third between them, not reaching costa, are marked darker across the wing, the fascia itself being filled with much deeper olive-green; the outermost line is swollen into a black patch beyond cell; all the darker markings are finely traced with gilded yellow; a black festooned marginal line; fringe green, mottled with black beyond the veins.

Hindwing: deep red; the base and inner margin dull blackish; a black marginal border, interrupted below middle; a black marginal festoon; fringe pale ochreous, reddish-tinged, and marked with black beyond veins; cell-spot blackish.

Underside blood-red; upper part of band beyond central fascia of forewing forming a yellow bracket-shaped mark, followed by a black submarginal band from below costa to vein 4; some strigae below cell, the cell-spot, and a spot

beyond it black ; costa marked with alternate yellow and black linear dashes ; hindwing with cell-spot, a double submarginal line, and a partial postmedian line blackish ; the red ground colour speckled with yellowish ; fringes of both wings yellowish, mottled with dark beyond veins, and tinged with red in middle of margin.

Head, thorax, and abdomen pale olive-green varied with darker ; face much paler, almost white ; palpi blackish green, mixed with paler scales ; legs fuscous with ochreous mottlings.

Expanse of wings : 28 mm.

1 ♀ from Chanchamayo, January to August 1901 (Hoffmanns).

Slightly smaller than *S. colorifera* Warr. ; both the green tint of the forewing and the red of the hindwing more intense.

159. **Spargania rufifimbria** spec. nov.

In markings this species agrees exactly with *S. approbata* Warr. from Bolivia, but the coloration and disposition of the tints is quite different. The central fascia of forewing is filled up with dark olive-green, the black edging and traversing lines sprinkled with yellow scales; the band on each side of it is whitish, with green and yellow dusting ; the three black lines beyond middle, which in *approbata* are strongly marked, are here faint and blurred, and between the second and third is a distinct waved bluish white submarginal line ; the fringe is dull coppery, mottled with dark green. The hindwing is uniformly copper-coloured without any trace of postmedian line ; the base and inner margin slightly greenish ; fringe coppery, whitish-tipped towards apex. On the under side of forewing between the postmedian and apical pale blotches is a single broad black fascia reaching to below middle, instead of the two black costal marks of *approbata*. The face is cream-coloured.

Expanse of wings : 39 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

160. **Spargania schistacea** spec. nov.

Forewing : white, overlaid with slate-colour and grey, intermixed, towards base and apex, with yellow scales ; edge of basal patch from near base of costa to one-fourth of inner margin, bent bluntly in cell ; inner edge of central fascia from one-third of costa to middle of inner margin, also bent in cell and lunulate throughout ; outer edge from just beyond middle of costa, oblique outwards and bluntly bent on vein 6, oblique inwards from vein 4, lunulate throughout, to two-thirds of inner margin ; filled up with slate-colour and darker at the edges, containing a black linear cell-mark ; followed by a white band with dark centre, both lunulate ; the broad pale space before fascia, except at costa, is nearly as dark grey as the fascia, with its centre quite as dark ; two black lunulate lines precede the pale grey submarginal line ; apical area above vein 4 filled with a dark smoky grey shade mixed with yellow scaling ; a dark marginal line ; fringe pale with dark slate-coloured mottlings.

Hindwing : uniform slate-colour ; fringe whitish, with dark marks beyond veins.

Underside slate-colour ; marginal area and outer edge of central fascia of forewing much darker, with a pale curved band between them ; of hindwing uniform slate-colour.

Palpi dark slate, with tips of segments whitish; face whitish; vertex, thorax, and abdomen slaty grey; shoulders and patagia with yellow scales intermixed; fore and middle tibiae and tarsi mottled black and white.

Expanse of wings: 32 mm.

A pair from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

161. **Spargania semipallida** spec. nov.

Forewing: smooth, pale olive-green, crossed by deeper green lines, starting from dark costal spots edged with pale scales; these spots are nine in number—three on the basal patch, three on the central fascia, and three submarginal, the last two being often insignificant; the line nearest base, that edging the basal patch, the three lines of the central fascia, and that from the seventh spot are marked with blackish across the wing, and the last forms a black blotch beyond cell; the outer line of the central fascia in the sinus beyond cell is marked with a white lunule; the central fascia is suffused with deep green; marginal line black, interrupted; fringe green, chequered with black beyond veins.

Hindwing: whitish, with the base, an obscure central band, and the marginal border smoky grey, the last sometimes tinged with reddish towards apex; fringe whitish, mottled with black.

Underside of forewing dull red, with black striae; a patch of whitish scales beyond cell; the upper half of band beyond central fascia, the costal edge, some spots at apex, and a large blotch in hindmargin below middle, yellow; fringe yellow chequered with black beyond veins and tinged with red in middle. Hindwing yellow, densely striated with red; the marginal border, an obscure postmedian line, and the cell-spot marked with blackish and red.

Palpi, head, thorax, and abdomen pale and dark green; face pale ochreous; legs mottled fuscous and ochreous.

Expanse of wings: 32 mm.

3 ♂♂ from Chanchamayo, June—August 1901 (Hoffmanns).

Distinguished from *S. colorifera* and *intensa*, to both of which it is allied, by the whitish hindwings.

Urocalpe gen. nov.

Forewing: costa arched at base, indented at middle, strongly convex before the depressed apex; apex blunt; hindmargin shortly vertical to vein 7, then oblique and faintly sinuous; anal angle rounded; inner margin rather convex, and shorter than outer margin.

Hindwing: with apex rounded, anal angle square; hindmargin with a small tail at the end of vein 3.

Antennae filiform, shortly pubescent; forehead rough-scaled below; palpi porrect, decumbent, rough-scaled, terminal segment curved; tongue and frenulum present; hindtibiae with four spurs.

Neuration as in *Perizoma*; areole of forewing double; discocellular of hindwing biangulate, the radial from the lower outward angulation.

Type *Urocalpe nigriplaga* spec. nov.

Allied to *Plemyriopsis* Warr. and *Rhinara* Warr., but differing from both in the outline of wings.

162. **Urocalpe nigriplaga** spec. nov.

Forewing: pale ochreous; basal patch black-brown, its edge running straight and oblique from one-third of costa to one-third of inner margin, traversed by obscure dark and pale lines, and containing below the median vein an oval space of pale ground colour; a black-brown subapical patch on costa, formed of three outwardly oblique short streaks, angled at vein 7; from the first four fine brown nearly parallel lines run to middle of inner margin slightly bent at vein 2, followed by a pale band with a slight central line; marginal area pale brown, marked above with traces of three or four lines with paler intervals, slightly darker on veins and forming a geminate black-brown waved patch before anal angle on inner margin; fringe pale beyond a dark marginal line; an apical pale streak; cell-spot small, brown.

Hindwing: with three or four waved grey transverse lines and darker grey marginal border, blackish at anal angle and traversed by a pale submarginal line; fringe pale, except at anal angle, where it is blackish.

Underside of forewing below middle blurred, above it ochreous, with the lines and markings red-brown; cell-spot brown in a pale ring; basal patch edged by a broad brown angulated fascia. Hindwing with all the lines and shading coarsely black-brown; cell-spot black in a large pale space; submarginal line waved, bluish-grey.

Head, thorax, basal and anal segments of abdomen black-brown; intermediate segments creamy ochreous with a brown dorsal spot on each: shoulders and patagia with some ochreous scales.

Expanse of wings: 28 mm.

1 ♂ from Chanchamayo, June—August 1901 (Hoffmanns).

Subfamily EUCESTIINAE.

163. **Callipia aurata** spec. nov.

Forewing: black; the costa dull brown with black streaks; a deep yellow blotch limited towards base by the subcostal vein above and submedian fold below; the outer edge rounded and irregular, leaving the subcostal vein at the discocellular, and curving between vein 4 and the submedian fold within three millimetres of outer margin; fringe black with brown marginal dots at end of veins.

Hindwing: wholly black with a greenish tinge.

Underside the same in forewing, but the inner margin duller, grey-brown; the apical area varied with long slender brown striae, and wholly brown round apex. Hindwing deep black, with the veins finely ochreous, covered throughout with fine long yellow striae; a patch of yellow scales at base of costal and median veins; a spot of ochreous scales at upper end of discocellular and at end of vein 7.

Head, thorax, and abdomen dull black; a streak of yellow hairs from sides of pectus over shoulders and base of patagia; sides of thorax and femora with yellow scales.

Expanse of wings: 62 mm.

1 ♂ from Popayan, Colombia (Lehmann).

164. **Callipia flagrans** spec. nov.

Forewing: orange-red, with a broad black border; the costal area drab with blackish striae, and towards the apex drab striae from it encroach upon the black of the border; below the costa the black encroaches on the cell and ends in a point on the median vein at the origin of vein 2; beyond the cell above vein 5 at two-thirds of the wing is a small red spot, often with a pale drab spot above and contiguous to it; below it the orange-red ground colour forms a small rounded upward projection, in one specimen touching vein 3 only, in another reaching well above that vein, and in the third touching vein 3; in this case the red and drab spots above are much exaggerated; fringe drab, the tips towards apex vinous red.

Hindwing: with the black border of uniform thickness, in two specimens produced narrowly and accompanied with striae along the costal margin, and in these instances the inner margin is slightly blackened and the median vein black; fringe drab, with a black spot below apex; fringe of inner margin black, rosy in the middle.

Underside of forewing with costal streak pale brown and the whole of apical area above vein 5 dark brown with dark and pale striae and the veins blackish, becoming pale ochreous at hindmargin; a pale ochreous marginal blotch from vein 5 to anal angle, where it is narrowed off; the fringe beyond it concolorous, above brown. Hindwing deep velvety brown, along inner margin black, along upper half of cell and expanding to apex paler brown; an ochreous-brown postmedian fascia from inner margin to vein 5, formed of contiguous quadrate spots; hindmargin irregularly pale ochreous; the whole surface with fine lengthy striations, pale on the darker ground, dark on the light; fringe ochreous, with a brown patch below apex; a pale ochreous discocellular scratch.

Head, thorax, and abdomen black, this last irregularly spotted laterally, and sometimes dorsally, with olive flesh-colour; patagia of the same colour.

Expanse of wings: 60 mm.

3 ♂♂ from River Inambari, E. Peru, 1000 m., July 1900, rainy season (Simons).

Distinguished from *C. parrhasiata* Guen. by the different tint of ground-colour.

In a fourth ♂ from Peru the orange-red colour is restricted, the dark marginal border in both wings being much wider and in the hindwing continued broadly along inner margin to base.

165. **Callipia occulta** spec. nov.

Very near *C. aurata* Warr. from Colombia; differing mainly in the restricted size of the orange blotch; the black border along the inner margin, which in *aurata* does not reach above the submedian fold, here touches vein 2, while the median vein itself is black from base to the origin of that vein; the edge of the orange patch externally is vertical, and farther from the hindmargin; the fringe is wholly black without pale spots at the ends of the veins.

Underside as in *aurata*.

Expanse of wings: 56 mm.

1 ♂ from Peru.

In describing his *constantiniaria*, Oberthür calls the costa of forewing both above and below, as well as the striolae of the underside of the hindwing, rosy. This does not apply to either *occulta* or *aurata*; the costa being olive-brown, and the striolae ochreous-yellow and ferruginous.

166. **Ameria seminigra** spec. nov.

Forewing : deep red ; all three margins black ; the inner margin linearly throughout ; costal margin gradually widening ; apical and hindmargin distinctly, but still narrowly, black ; fringe short, blackish.

Hindwing : black ; fringe black ; costal area for two-thirds red.

Underside like upper, but all the margins of forewing more broadly and diffusely black, the apex tinged with black, and the apical veins black.

Head, thorax, abdomen, legs, and antennae black ; shoulders and patagia red.

Expanse of wings : 32 mm.

2 ♂♂ from Chirimayo, S.E. Peru, 1000 ft., July 1901, dry season (Ockenden).

The neuration of the hindwing of the ♂ is the same as that of the ♂ of *A. incaria* Wlk., the discocellular for half the length of the wing running nearly parallel to the costa.

167. **Eudule flavinota** spec. nov.

Forewing : chocolate-brown ; median and submedian veins orange from base to before middle ; a short orange band from costa just beyond middle running vertical to vein 4, expanding outwards into orange streaks along veins 3 and 4, which are crossed by a curved orange line extending from vein 5 to vein 2 ; fringe concolorous.

Hindwing : uniformly chocolate-brown.

Underside duller ; the orange markings reproduced.

Head, thorax, and abdomen chocolate-brown ; shoulders with a lateral orange spot.

Expanse of wings : 22 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

168. **Eudule malefida** spec. nov.

Forewing : deep orange-red ; costa shortly black at base ; apical third black, its edge running straight from two-thirds of costa to hindmargin below vein 3 ; the inner margin narrowly black ; fringe black throughout.

Hindwing : black ; the costal margin pale pinky orange ; below the median vein and vein 4 the black is less dense and the wing diaphanous.

Underside like upper, but the black duller, and on the inner half of hindwing somewhat bronzy green.

Head, thorax, abdomen, and legs all dull blackish.

Expanse of wings : 35 mm.

1 ♂, Upper Toro River, La Merced, August, September 1901, 3000 m. (Simons).

Subfamily ASTHENINAE.

169. **Amaurinia expallidata** spec. nov.

Forewing : very pale ochreous green ; a rather broad pale ochreous outer line, from three-fifths of costa, slightly curved outwards to vein 4, then obliqne inwards to vein 2, thence vertical to two-thirds of inner margin ; followed by three wavy lunulate pale lines, of which the outermost disappears below the middle ; fringe

pale ochreous; cell-spot black; very faint traces of inner lines can be detected along the inner margin.

Hindwing: like forewing, but without cell-spot.

Underside, especially of forewing, suffused with a faint tinge of rosy, the lines showing paler.

Face brown; fillet and antennae white; vertex, thorax, and abdomen pale green.

Expanse of wings: 19 mm.

1 ♂ from Trinidad.

170. **Cambogia anguinata** spec. nov.

Forewing: deep yellow, still deeper along the costa: crossed by five pairs of sinuous blood-red lines, overlaid with lustrous scales; the extreme base red; the first pair of lines more diffuse; the middle pair thickest; the two outer series more or less broken up into lunules between the veins; a line of marginal dashes from apex to middle, below middle coincident with those of the outer line; fringe yellow.

Hindwing: without the two inner pairs of lines.

Underside paler; all the lines dull rosy, plainer in forewing, where they are laterally blotched, the inner margin remaining pale.

Face and palpi blood-red; vertex white; shoulders, patagia, and dorsum yellow marked with red.

Expanse of wings: 22 mm.

1 ♂ from Charaplaya, Bolivia, June 1901, 1300 m. (Simons).

C. ambarilla Dogn. must resemble it in markings, but the lines are said to be grey, not red.

171. **Cambogia antiopata** spec. nov.

Forewing: whitish, tinged with pale flesh-colour; crossed by fine wavy brownish lines, plainer on inner margin; a brownish-purple costal streak from base to apex, out of which at five-sixths a broad curved band of the same colour runs to anal angle, beyond which the narrow marginal space is pale yellow; fringe yellow; cell-spot brown.

Hindwing: flesh-colour only at base, darkening outwards to the submarginal purplish band, which is broader than that of forewing; a geminate median and postmedian purple line, like the submarginal band overlaid with dull lustrous scales; marginal area and fringe yellow.

Underside pale yellowish, with the submarginal bands and costa of forewing dull purplish; forewing, except along inner margin, tinged with dull blurred rosy.

Face and palpi brown; vertex, fillet, and antennal shaft snow-white; collar and shoulders brown; thorax, patagia, and abdomen flesh-colour, the abdomen marked with dark, corresponding to the dark lines of hindwings.

Expanse of wings: 24 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Somewhat resembling *C. rubiada* Dogn.

172. **Cambogia bellissima** spec. nov.

Forewing: basal half and costal area yellow washed with bright fulvous; basal patch and three outwardly oblique streaks beyond it, each thicker than the

one preceding, vinous purple overlaid with lustrous scales; cell-spot black, linear, lying in a yellow blotch from costa; beyond it three more lustrous streaks, inwardly curved below the middle; the first lying in the middle of a broad vinous purple blotch, starting narrowly from before middle of costa and curving round below cell-spot to coalesce with the purple of the third antemedian streak; the second only narrowly edged with vinous, the third swelling out below into a leaden-coloured cloud touching hindmargin below middle; marginal area and fringe pale sulphur-colour.

Hindwing: with basal area deep fulvous, limited by a broad antemedian straight band of lustrous scales edged with vinous purple; outer half of wing sulphur-coloured, with a slightly lustrous grey submarginal curved line, with very faint traces of an obscure line preceding it and a cloud beyond it below vein 4; fringe sulphur-coloured.

Underside with the lines and blotches all dull purple; the costal area yellow, the margins pale sulphur; hindwing like upperside, but duller.

Face, thorax, and dorsum fulvous; fillet and antennae white; abdomen beneath and legs pale.

Expanse of wings: 22 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Evidently related to the Mexican *C. isabella* Schaus.

173. **Cambogia delicatula** spec. nov.

Forewing: bright yellow; the lines fine, lustrous lilac; the first near base, oblique to median vein, then incurved; second, antemedian, and third, median, oblique to subcostal vein, then vertical to median vein, thence incurved, the median followed by a deeper yellow line; postmedian line fine, less oblique from costa; outer line thick, crenulate, slightly angled at veins 6 and 4, and followed by a deeper yellow shade; submarginal line lunulate, interrupted; fringe yellow; no marginal line; some lilac scales at apex.

Hindwing: the same, but without the two inner lines; space between outer and submarginal lines pale ferruginous.

Underside of forewing dull rosy, the lines rather deeper; of hindwing dull yellow, with the outer margin rosy.

Face and palpi ruddy brown; fillet white; vertex, thorax, and abdomen yellow: antennae white.

Expanse of wings: 21 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden), *type*.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

The transverse lines are at uniform intervals; both wings without a trace of cell-spots in the type ♀; but in the ♂ from Charaplaya, though worn, these are minute but plain.

174. **Cambogia flavifulva** spec. nov.

Forewing: canary-yellow, the ground colour pure only along outer margin including the fringe, and on the costal and inner-marginal extremities of a broad antemedian band; the rest of the wing washed with fulvous deepening into brown;

basal area crossed by four curved rather wide pearly lustrous lines, indicating the usual basal and subbasal dark lines; postmedian area with three brown costal spots indicating three brown cross-lines, which are lost in the fulvous suffusion, but marked across it by three broad lustrous lines, the outermost very faint; a slight interrupted fulvous submarginal line in the yellow marginal area.

Hindwing: with the outer fascia only, this not reaching costa, dark brown in middle, and marked by two lustrous bands; base of wing slightly fulvous-tinged; a distinct brown cell-spot on both wings.

Underside dull yellow, the fulvous markings dull reddish, somewhat restricted; cell-spots brown.

Face, palpi, and shoulders brown; collar and vertex olive-yellow; fillet snow-white. Thorax and abdomen dull yellow, tinged with fulvous.

Expanse of wings: 22 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

175. **Cambogia funiculata** spec. nov.

Forewing: yellow; cell-spot large, red-brown; before it four thin reddish vertical irregularly bent lines; beyond it from beyond middle of costa to middle of inner margin a slightly curved thick red-brown band, broader above, followed by a thick line which is insinuate beyond cell and on submedian fold so as to touch the band; the pale band beyond this line is traversed by a fine interrupted red-brown line, and followed by three parallel red-brown submarginal lines close together and suffused above anal angle; a red marginal line, swollen between the veins; fringe yellow, marked with red-brown at apex and beyond vein 4; all the lines coalescent laterally below the costa, the intervals between them forming small yellow spots on the costal edge.

Hindwing: with only two fine red basal lines; the thick band narrower and antemedian, straight, followed by a similar line to that on forewing; only two submarginal lines, farther apart, followed by a red-brown marginal band; fringe yellow, with a red-brown spot at vein 4.

Underside with all the markings duller.

Palpi yellow, externally red; upper half of face red, lower half yellow; filler yellow with a red line above; collar yellowish; shoulders and base of patagia red, upper half of patagia yellow; thorax and abdomen yellow, the latter with reddish segmental rings.

Expanse of wings, 17 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The hindwing is angled at middle. The species is closely allied to *reticulata* Schaus and *tessellata* Warr.

176. **Cambogia griseicosta** spec. nov.

Forewing: greenish grey, the whole wing, except along costal area, overspread with dull reddish brown; three lines near base, one antemedian just before the black cell-spot, forming the inner edge of central fascia, and two or three post-median, angled on vein 6 and again on 4, then oblique inwards; darkened between 4 and 6, and with pale tips to the lunules; an outer and a submarginal line parallel

to the postmedian ; all these lines are clear only in the pale costal space ; a dark red crenulate marginal line ; fringe red-brown, with bright pale base and paler tips.

Hindwing : dull orange, with reddish brown striae, the costa and inner margin paler ; a large red-brown cell-spot, followed by a double red antemedian band from inner margin to vein 6, and traces of a submarginal line on inner margin ; marginal line red-brown, with spots between the veins ; fringe rufous.

Underside yellowish, washed all over with pale red-brown ; the lines all darker ; cell-spots large, black.

Head, palpi, and antennae greenish grey ; thorax and abdomen the same, dusted with reddish : in the redder specimen (*type*) the face and thorax are dull red ; the smaller specimen is the darker.

Expanse of wings : 22—26 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

177. **Cambogia intacta** spec. nov.

Forewing and *hindwing :* dull yellow, without any markings except the brown discal spots.

Underside the same.

Head, thorax, and abdomen concolorous.

Expanse of wings : 26 mm.

1 ♀ from Bulim, N.W. Ecuador, 160 ft., January 1901 (Flemming & Miketta).

178. **Cambogia lilacina** spec. nov.

Forewing : lilac-grey without any distinct markings : the costa narrowly dark yellow ; on this costal edge the commencement of cross-lines can be traced running very obscurely through the lilac ground colour ; two close to base, two subbasal, two antemedian, four postmedian ; cell-spot dark ; marginal area from apex to anal angle dull dark yellow, sprinkled with ferruginous ; the fringe pale yellow.

Hindwing : with the basal two-fifths like forewing in colour, edged by a median yellow band ; outer half of wing yellow, thickly sprinkled with ferruginous, indistinctly crossed by three or four waved lines : fringe pale yellow.

Underside like upper, the lilac slightly reddish-tinged.

Face, palpi, thorax, and abdomen lilac, the abdomen varied in places with dull yellow ; vertex and antennae snow-white.

Expanse of wings : 30 mm.

1 ♀ from Agualani, S.E. Peru, 10,000 ft., September 1901 (Ockenden).

One of the largest species of the genus ; apex of forewing prominent, hindmargin oblique ; that of hindwing bent at middle.

179. **Cambogia restrictata** Warr., *Nov. Zool.* viii. p. 458 (1901).

The ♂, from which the original description was made, was from Chiriqui, Panama, and expanded 24 mm. From N.W. Ecuador there have come lately 3 ♀♀, 2 from Bulim, 1 from Salidero, taken in February 1901 by Messrs. Flemming & Miketta, which are only 17 mm. in expanse. As so great a disparity in the size of the sexes is unusual in this genus, it may be that the Ecuador ♀♀ represent a small race; unless, indeed, the type ♂ from Panama was abnormally large.

180. **Hydata diaphana** spec. nov.

Forewing: very pale greenish, semi-transparent; the markings blackish grey: basal half of wing blackish grey, the grey projecting along costa and inner margin to the two outer lines and also running along veins 3 and 4; from one-third of costa a darker outwardly curved line, running in and forming a sinus on submedian fold and in its lower course edged with paler; two dark submarginal lines parallel to each other, the first fine and dentate-lunulate, the second much thicker, forming an outward tooth above vein 6 towards apex; fringe pale with dark grey dashes continuing the veins.

Hindwing: with a distinct pale curved antemedian line; the rest as in forewing but with a thick dark marginal line; veins blackish.

Underside similar, the markings more diffuse.

Head, thorax, and abdomen blackish grey.

Expanse of wings: 22 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

This species should have been placed in the subfamily GEOMETRINAE.

SUBFAMILY TEPHROCLYSTIINAE.

181. **Chloroclystis microptilota** spec. nov.

Forewing: pale greyish green; the lines black, all bent below costa, then oblique inwards; first slender, close to base; second and third from about one-third and two-thirds, limiting the central fascia, which is traversed by two or three greener lines and contains a rather large black cell-spot; a black submarginal shade, broken in places, preceding the pale waved submarginal line; fringe green, beyond a fine dark marginal line. The apex of wing is acute in the ♂, rounded and blunt in the ♀.

Hindwing: in ♀ quite small and narrow, with the edges of the central fascia darker, and a small cell-spot; in ♂ aborted, pointed, whitish, without markings but with a long fringe.

Underside darker, with the lines blackish.

Head, thorax, and abdomen greenish; palpi green, very long, and rough-haired.

Expanse of wings: ♂, 17 mm.; ♀, 15 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

182. **Eucymatoge ochrosoma** spec. nov.

Forewing: dull dark olive cinereous, with no distinct lines or markings, except the waved submarginal line, which is slightly lustrous; the paler bands edging the central fascia are just traceable, especially the outer; the lower angle of cell (which is short) is marked by a pale ochreous streak at the origin of veins 3 and 4; fringe concolorous, the basal half darker.

Hindwing: similar; an obscure dark cell-spot, and traces of three darker shades on abdominal margin; submarginal lustrous line thicker, and less definite.

Underside dull olive cinereous, the pale bands of forewing indicated.

Head, palpi, and antennae concolorous with wings; thorax, patagia, and abdomen pale ochreous.

Expanse of wings : 20 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The areole is plainly double. It is probable that several more of the S. American insects, hitherto referred to *Tephroclystia*, will have to be removed to *Eucymatoge : longicorpus* Warr. and *linda* Dogn. I have already found to have the areole double ; in all these cases vein 11 rises far back.

183. **Tephroclystia costivallata** spec. nov.

Forewing : chalk-white with a blue-grey tinge ; the markings slightly darker grey ; basal patch and central fascia both formed of two grey belts, their lines slightly darker-marked on the veins, and all forming blackish blotches on the costa ; the pale belts on each side of central fascia wide, with a waved or punctulate middle line ; marginal area dark grey traversed by a fine pale submarginal line, preceded on costa by a fifth darker blotch ; marginal line black, interrupted by conspicuous pale spots at the vein-ends ; fringe white, chequered with grey ; veins in outer belt of central fascia marked with dark.

Hindwing : paler, with the outer lines repeated.

Underside suffused with grey, especially in the forewings, and with black cell-spots.

Head, thorax, and abdomen white ; antennae dark grey.

Expanse of wings : 19 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Forewing narrow, with oblique hindmargin ; hindwing bent at vein 3. In these respects, and in the long ciliations of the antennae, the species approaches *T. perciliata* Warr., but the ground colour is wholly different.

184. **Tephroclystia curvifascia** spec. nov.

Forewing : pale brownish, suffused and dusted with fuscous ; the cross-bands thick, angled below costa, and only distinct in the costal area ; edge of basal patch angled in cell ; central fascia with the inner band obscure, double at costa ; the outer band thick and curved, distinct throughout ; followed by a curved pale band, also distinct throughout ; marginal area fuscous, the submarginal line very indistinct, marked in places by light and dark scales ; fringe concolorous ; cell-spot large, black.

Hindwing : similar, but without basal patch ; hindmargin slightly incised before anal angle.

Underside paler, ochreous-tinged and glossy ; the bands more visible, especially along costa ; both wings with distinct outer and submarginal dark bands ; cell-spots black.

Head, thorax, and abdomen like wings ; palpi ochreous-tinged.

Expanse of wings : 19 mm.

1 ♀ from Newcastle, Jamaica.

185. **Tephroclystia rubellicincta** spec. nov.

Forewing : white ; the extreme base and a submarginal fascia brick-red ; all the other markings blackish grey ; basal patch with outer edge oblique, the outer half grey ; central fascia limited by two inner and three outer dark grey lines,

forming two grey belts; the first four all more or less irregularly dentate, the fifth blacker and more distinct, angled inwards below subcostal and outwards on vein 6, then inwardly waved to beyond middle of inner margin; the white bands preceding and following each with a blackish central thread and edged with blackish; submarginal line whitish, irregularly dentate, preceded by the brick-red fascia, the marginal space beyond dark grey; marginal line blackish, marked with a whitish dot at the ends of the veins, the intervals between them with fine blackish longitudinal streaks from the pale outer belt to hindmargin; fringe white with grey mottling beyond veins.

Hindwing: with the lines all blackish grey; the outer line of central fascia, as in the forewing, thickest.

Underside whitish, suffused in forewing with grey, with two central lines and a marginal band grey, the latter broad in forewing, broken up in the hindwing.

Head, thorax, and abdomen white, much speckled with blackish; face with a grey spot in the centre; palpi white internally, reddish-tinged externally; antennae fuscous, with basal fifth white.

Expanse of wings: 27 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

186. **Tephroclystia spurcata** spec. nov.

Forewing: dull brownish, with dull fuscous suffusion: crossed by a series of darker waved lines which are most distinct on the costa, where they are wider; a paler brown fascia angled below costa at one-third and two-thirds; submarginal line white, lunulate, preceded and followed by darker; fringe brown; cell-spot large, black, formed of raised scales; veins dotted black and pale.

Hindwing: brownish grey, with the markings plain along inner margin only; a dark cell-spot; marginal line black, interrupted.

Underside brownish cinereous, with cell-spots plain and the lines indistinct.

Head, thorax, and abdomen brownish grey.

Expanse of wings: 26—30 mm.

Common from Chili.

The wings are broad, and the hindmargin of hindwing irregular, truncate at anal angle and nearly straight from vein 3 to 6.

187. **Tephroclystia trigenuata** spec. nov.

Forewing: pale ashy grey, darker grey along the hindmargin; the lines black, thicker towards costa; first from one-fourth of costa to one-fourth of inner margin, bluntly angled in cell and on submedian fold; second from before middle of costa to middle of inner margin, bluntly bent in cell and on submedian fold, in the cell touching a large black cell-spot; third from two-thirds of costa to three-fourths of inner margin, oblique outwards and bluntly bent at vein 6, angled below vein 4, and again inwardly angled on submedian fold: between these lines, which form the usual central fascia, less defined transverse lines are denoted by black scales and shading; the first and second are connected along submedian fold by a black dash; the pale submarginal line is scarcely indicated, except towards inner margin; the darker grey shade preceding it is tinged with rufous; marginal line black; fringe grey; on costa near base is a black spot, apparently the commencement of an obscure basal line.

Hindwing: whitish grey, with traces of black lines from inner margin.

Underside similar, but with the lines obscure.

Head, thorax, and abdomen grey.

Expanse of wings: 25 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Subfamily HETERUSIINAE.

188. **Heterusia amplificata** spec. nov.

Like *H. quadruplicaria* Hüb.-Gey., but with all the yellow rays brighter and broader; especially the outer one of hindwings, and that from the costa in the forewings; this swells out below the subcostal vein to more than twice the width of the corresponding mark in *quadruplicaria*, and nearly touches vein 1 before the anal angle. In size it is decidedly larger. On the underside it agrees in all particulars.

Expanse of wings: 36 mm.

1 ♂ from Upper River Toro, La Merced, Peru, August, September 1901, 3000 m. (Simons).

189. **Heterusia fractifascia** spec. nov.

Forewing: olive-brown, with a faint tinge of plum-colour; a curved white streak from middle of costa to below vein 3, like the lower half of the foreleg of a horse in shape; fringe brown.

Hindwing: basal two-thirds grey, marginal third dark plum-colour, interrupted by a white blotch, starting broad from the end of cell, and narrowing before hindmargin, where it forms a white spot in the fringe below vein 6, and throwing off a spur to the costa before the dark margin.

Underside of forewing like upperside, but basal area whitish freckled with purplish; a patch of pale scales at anal angle, and a whitish line at base of fringe on costal half; the grey area of upperside whitish with purplish freckles, bounded by a thick purplish line, four times rectangularly bent before reaching the median vein, then broadly curved outwards: the space beyond it white, unspotted, projecting an arm to hindmargin between two dark purple blotches.

Head, thorax, and abdomen purplish cinerous.

Expanse of wings: 34 mm.

1 ♂ from Balzapamba, E. Ecuador, 750 m., March 1899 (Haensch).

A species standing by itself; somewhat recalling *coliadata* Wlk.

190. **Heterusia liturata** spec. nov.

Forewing: black; the markings pale sulphur-yellow; four costal marks, the first roundish at base, the second just beyond, oblique, the third and fourth vertical, tooth-shaped, at two-fifths and three-fifths; all four represented on median vein, the two first as elongate small spots, generally confluent, the two last as two large oval blotches confluent below, so forming a large kidney-shaped blotch; in one example these blotches are quite separate, the first round, the second transversely elongate; the submedian vein is sometimes marked with pale scales near base; fringe black chequered with pale between the veins above vein 3, wholly black below it.

Hindwing: sulphur-yellow, with four black interrupted curved bands, the first forming a basal patch, the second consisting of irregular blotches, the third of small spots, the fourth of square larger spots; all these bands interrupted in cell and beyond it; an uninterrupted curved black marginal border crossed between the veins by elongate pale streaks; fringe sulphur-colour, mottled with black; the inner margin blackish.

Underside like upper, but all the pale markings more developed, and in addition on the forewing a short submarginal outwardly dentate costal streak (traces of which in one example only are visible above); the fine pale mottlings of the fringe produced backwards across the pale basal line to form dagger-shaped markings; in the hindwing all the veins are broadly sulphur-colour; the curved bands are less interrupted along the cell; while the marginal band is broken up into a series of horseshoe-shaped blotches with a pale vein ending in each. Palpi sulphur-coloured with the tips black; face hairy, black; fillet sulphur; vertex black; collar sulphur; shoulders and patagia black at base, sulphur-coloured towards tips; abdomen black with the segments sulphur; abdomen beneath and pectus sulphur, the latter hairy; legs black with sulphur rings.

Expanse of wings: 28 mm.

4 ♂♂ from Baños, E. Ecuador, September 1899 (Haensch).

Allied to *H. pretiosa* Mssn.

191. **Heterusia ludisignata** spec. nov.

Forewing: black, olive-grey at extreme base; an elongate white streak in base of cell attached at its end to a spot between the origin of veins 2 and 3; an oval yellow spot towards apex reaching from above vein 6 to below vein 5; a faintly paler streak above submedian vein from near base.

Hindwing: white, with black marginal border, its inner edge shouldered before apex.

Underside the same, but in forewing the streak along submedian vein is distinct, of bluish-white scales, the other white markings being hyaline white; the black round the white spots and before the yellow one is deeper, and in the hindwing forms a distinct angled submarginal line, with a white spot beyond it in the black border beyond cell, in one case showing on the upperside as well.

Head and thorax black; abdomen greyer; sides of face and patagia whitish.

Expanse of wings: 35 mm.

4 ♂♂ from Chanchamayo, Peru, January—August 1901 (Hoffmanns).

In one example the oval subapical spot is white. The palpi are long, curved downwards, and the inner margin of hindwing is attenuated.

192. **Heterusia subspurcata** spec. nov.

Forewing: black-brown with an olive tinge, with some sparse olive and orange scales about the wing, the olive scales near base massed together and making it appear lighter; before the end of cell above the median vein are a few orange scales hardly forming a distinct spot; half-way between them and apex is an elongated oval orange blotch, reaching from subcostal vein to below vein 4; some white scales along inner margin before middle; fringe dark with a few whitish flecks.

Hindwing: white, with broad black marginal border; the costa and base of wing with some smoky dark scales.

Underside of forewing olive fuscous, purplish brown in the middle; costal and marginal areas paler, dusted with whitish scales and striae, a white streak in cell from base; orange blotch as above; hindwing with the marginal border olive-brown, thickly covered with pale striae; a median curved dark line across the white basal field.

Head, thorax, and abdomen olive fuscous with pale specks; face grey; abdomen beneath white; tarsi spotted, black and white.

Expanse of wings: 26 mm.

1 ♂ from Chanchamayo, Peru, January to August 1901 (Hoffmanns).

193. **Heterusia thyridata** spec. nov.

Forewing: black; the fringe black, slightly white-chequered between the veins; beyond the cell from vein 6 to 3 an oblique hyaline white blotch, its outer edge concave inwards, meeting inner edge at a point half-way down vein 3.

Hindwing: black.

Underside duller black, with a few cream-coloured speckles towards costa; on costa near base a cream-coloured spot; before apex an inwardly oblique streak of the same colour, and a small spot close to apex; the hyaline blotch of upperside connected with costa by a narrow neck; hindwing with a deep red tinge, thickly striated with yellowish; a yellow spot on costa before apex; a powdery white lunulate-dentate band beyond middle and a fainter one before middle; a silvery lunulate cell-spot.

Face and palpi black above, whitish beneath; head, thorax, and abdomen black; legs speckled, black and white.

Expanse of wings: 30 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Related to *H. funesta* Warr., but the white blotch of different shape and differently placed; the underside of hindwing more marked.

Subfamily OURAPTERYGINAE.

Aplorama gen. nov.

Agrees with *Ratiaria* Wlk., except that the antennae, which in that genus are pectinated in the ♂, are here quite simple. Like *Ratiaria* and *Phrygionis* it is without a frenulum.

Type *Aplorama nazada* Druce (*Byssodes*).

Druce's type was a ♀; I have only seen two examples before, both ♀♀, one from Merida, Venezuela, the other from Santo Domingo, S.E. Peru, whence also the present ♂.

194. **Phrygionis modesta** spec. nov.

Forewing: uniform fawn-colour; the costal area to beyond middle tinged with luteous; drops of silvery scales along costa at base and one below median vein; a line of silvery scales on the inner edge of the two transverse lines, which are both uniformly luteous and narrow; the first nearly vertical from one-fourth of costa to one-third of inner margin, with two drops of silvery scales on the

subcostal vein on the outer edge; outer line from middle of costa to three-fourths of inner margin, also with two silver dots on its exterior edge on the subcostal; fringe pale straw-colour, fawn at apex and anal angle.

Hindwing: with the marginal fourth luteous, its inner edge parallel to the hindmargin which is not tailed or toothed at middle, but bluntly elbowed; the inner edge of the luteous margin with four silvery drops below the median vein; then a silvery line from costa to inner margin, and another from costa externally to a round silvery drop at the elbow; fringe as in forewing.

Underside paler, duller fawn; the markings of upperside showing through.

Head, thorax, and abdomen fawn-colour; the last paler beneath.

Expanse of wings: 40 mm.

1 ♂ from Minas Geraës, December 1898 (Kennedy).

Very near *appropriata* Wlk., but without a tail to the hindwing.

Subfamily DEILINIINAE.

195. **Lomographa acutipennis** spec. nov.

Forewing: white; inner line indicated by a few dark scales on inner margin at one-third; traces of postmedian and submarginal lines parallel to hindmargin, represented by dark scales; fringe white; a small black cell-spot.

Hindwing: with the outer lines only and cell-spot.

Underside white.

Head, thorax, and abdomen white; face and antennae brown.

Expanse of wings: 24—26 mm.

2 ♀♀ from Onaca, Santa Marta, June to August (Engelke).

Distinguished from all other species of *Lomographa* by the acute apex of forewing.

196. **Lomographa albifrons** spec. nov.

Forewing: white; costal edge brownish towards base; a faintly expressed submarginal line, parallel to hindmargin but slightly bent inwards before costa; fringe white, beyond a very fine dark marginal line.

Hindwing: with the line curved.

Underside white, without markings.

Head, thorax, and abdomen white; face and palpi yellow-tinged; antennae ferruginous; forelegs fuscous in front.

Expanse of wings: 30 mm.

1 ♂ from Charaplaya, Bolivia, 1000 m., June 1901 (Simons), *type*; 3 ♂♂ from Chulumani, Bolivia, 2000 m., December 1901, wet season (Simons); 1 ♂, 1 ♀ Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Resembles *circumcallaria* Snell. and *undilinea* Warr., but distinguished by the pale face.

Neobapta gen. nov.

Forewing: costa slightly curved at base and towards apex, which is depressed; hindmargin well rounded, faintly crenulate; inner margin somewhat convex.

Hindwing: with hindmargin strongly rounded, slightly protuberant at middle, and incurved before anal angle and beyond cell.

Antennae of ♂ simple, lamellate; palpi porrect, weak, reaching in front of face, hairy beneath, the third segment narrower, distinct; tongue and frenulum present; legs broken.

Neuration: forewing, cell fully half as long as wing; discocellular faintly inbent above middle; first median nervule at five-eighths, second at seven-eighths; lower radial from bend in discocellular, and therefore above middle, upper from upper angle of cell; 7, 8, 9, 10 stalked from two-thirds, 11 free; hindwing, costal approximated to subcostal for one-third of cell; veins 3 and 7 before angles of cell; no radial.

In the forewing the submedian vein is bent downwards near base, and elbowed upwards at one-fifth, emitting a short spur basewards from the elbow, but not forming a fovea.

Type: *Neobapta indecora* spec. nov.

The type species may be allied to *Cabira ochropurpuraria* H. S.; but the antennae are simple and the neuration somewhat anomalous.

197. **Neobapta indecora** spec. nov.

Forewing: dull greenish grey, thickly covered with transverse purplish fuscous striae, with traces of two lines; the first curved, at about one-third, indistinct, starting from a dark costal spot; the second submarginal, irregularly waved and thickened; a distinct blackish cell-spot; fringe (worn) concolorous.

Hindwing: rather darker, greyer; cell-spot and outer line only visible.

Underside paler, without markings.

Head, thorax, and abdomen concolorous.

Expanse of wings: 30 mm.

1 ♂ from Rio Demerara.

Subfamily PALYADINAE.

198. **Argyrotome ferruginea** ab. **albinata** nov.

Differs from typical *ferruginea* Warr. in the absence of the grey scaling in both wings, that colour being replaced by pure creamy white.

Underside, thorax, and abdomen all alike creamy white.

1 ♀ from Salampioni, Bolivia, 800 m., August 1901, dry season (Simons); sent with two others, from the same locality and with the same date, of the ordinary grey type.

Gyostega gen. nov.

Forewing: triangular; costa slightly incurved before middle, convex at apex; hindmargin oblique, scarcely curved; inner margin broadly lobed before middle; median vein fringed with hair near base above.

Hindwing: ample; anal angle slightly produced, rectangular; apical angle rounded; hindmargin curved above middle, straight below; inner margin lobed on basal half; a large wisp of hairs from base of submedian fold, nearly reaching middle of wing, covering a distorted furrowed space between veins 1 and 2, which forms a bulge on the under surface.

Antennae (♂) filiform, shortly pubescent; frenulum long; tongue present; palpi porrect, short and stout.

Neuration: forewing, cell half the length of wing; discocellular straight, oblique; first median nervule at two-thirds, second at eight-ninths; radials

normal: 7, 8, 9 stalked from just before angle of cell; 10, 11 coincident: hindwing, costal and subcostal closely approximated for quite half of cell; 3 and 7 just before angles.

Type: *Gyostega floccosa* spec. nov.

199. **Gyostega floccosa** spec. nov.

Forewing: white, overlaid almost entirely with purplish brown, partially lustrous, scales, the subcostal region alone remaining white; costa gilded yellow; markings obscure; a darker brown shade at base; another ending on inner margin near end of lobe; cell-spot dark brown, linear; a brown oblique mark from subcostal vein at four-fifths, preceded by a white subcostal triangle, becoming broader and diffuse, to hindmargin above anal angle; a subapical whitish streak dotted with brown; an interrupted brown marginal line; fringe brown.

Hindwing: white, rufous-tinged in the disc, with long grey-brown striations; marginal border silver-grey; fringe ochreous grey; basal tuft dark brown, the concealed down ochreous.

Underside pearly white; both wings with broad purplish brown border, and dark cell-spots.

Thorax and abdomen brown; head damaged.

Expanse of wings: 31 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

200. **Ophthalmophora contrariata** spec. nov.

Forewing: dark brownish fawn-colour; the costa pale yellow to before apex, narrow at base, gradually widening, and beyond middle forming a large triangular blotch; outer three-fourths of inner margin cream-colour, becoming yellowish at anal angle; at one-fourth from base a curved line runs to inner margin from a slight dent in the costal streak, darker than ground colour, with a somewhat paler edge; from the costal triangle an outer line runs, curved outwards, to the inner-marginal streak before anal angle, slightly paler, edged on both sides with darker; a pale linear cell-mark; fringe brown with the tips shining white; beyond the costal triangle is a small patch of lustrous steely-blue scales.

Hindwing: with base brown, edged by a silvery white line, both much less oblique and narrower than in *O. orion*; a broad metallic line before hindmargin curving parallel to it and round again in the middle to vein 6; the space on each side of this line dull orange, the rest of the wing speckled, with black atoms along inner margin, and in the middle with red ones; three metallic embossed spots edged with black in a yellow ring lying in a curve convex outwards, parallel to the metallic line; in *orion* this curve is concave outwards; fringe glossy grey; a slight red cell-mark.

Underside whitish; apical third of forewing cinereous; costa yellowish.

Head, collar, and basal segments of abdomen brown like wings; shoulders and patagia pale grey, the shoulders with a whitish line in front; abdomen darker grey, with a white line beyond the brown base; abdomen beneath and pectus white.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

201. **Ophthalmophora lineata** spec. nov.

Forewing: white; costa ochreous; first and second lines greyish buff; first from subcostal vein at one-fourth, slightly curved and slender; second at middle straight and thick, also from subcostal, concisely edged outwardly, diffuse inwardly; an outer white band from beneath costa to anal angle, preceded by a shade formed of greyish buff freckles deepening to the line, and followed by a similar shade deepening towards margin; fringe lustrous, dark greyish buff, with the tips paler.

Hindwing: with the middle line, ending at two-thirds of inner margin; a bright metallic submarginal line from anal angle, angled at vein 4, where there is a metallic spot, bent round below costa, and descending again to vein 4; the enclosed space above vein 4 pale buff, containing a small metallic black-edged spot in a paler buff ring; the space below vein 4 finely speckled with purplish; marginal area yellowish; fringe as in forewing.

Underside white; in forewing the apex and hindmargin beyond outer line dark grey; basal area above median paler ochreous-grey, the middle line slightly showing; fringe of both wings grey.

Head, thorax, and abdomen white; face and palpi greyish.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

202. **Ophthalmophora orion** spec. nov.

Forewing: mouse-colour, with two darker transverse lines; first at one-fourth angled in cell, paler internally; second from three-fourths of costa, slightly sinuous and oblique to submedian fold, there obtusely angled and running straight to middle of inner margin; in its upper course it is somewhat paler-edged externally; below the fold it is followed by a broad white space, passing into fulvous yellow towards anal angle; the whole marginal area above is more or less mixed with fulvous red, except along costa, towards anal angle, and along hindmargin; fringe mouse-colour; cell-spot obscure, pale and vertical, with darker edge.

Hindwing: mouse-colour at base, edged by a straight darker line, continuing the outer line of forewing, and like that followed by white and fulvous; rest of wing fulvous orange; a metallic submarginal line, curved round below costa before apex and ending on vein 6; the centre of the fulvous space is dull brick-red, containing on the inner margin a large mouse-coloured cloud, and beyond cell three small ocelloid spots in a curve, their centres metallic golden in a black ring, edged again with yellow and black; marginal line darker, fine; fringe reddish grey.

Underside of forewing pale mouse-colour, of hindwing pinky ochreous, the markings showing through.

Head, thorax, forelegs, and basal segments of abdomen mouse-colour; abdomen pale grey from third segment, which is marked in front by a pale ring connecting the pale basal edging of hindwings.

Expanse of wings: 30 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Damăcata Wlk., to which the species seems nearest, has four ocelloid spots on hindwing. The antennae of the ♂♂ are bipectinated.

203. **Ophthalmophora transversata** spec. nov.

Forewing: dark grey-brown, crossed from the middle of costa to anal angle by a broad pure white band, slightly widening downwards; fringe grey; traces of a curved paler line close to base.

Hindwing: with base mouse-colour, edged by a straight dark shade, which is followed by a paler one; a curved metallic silvery submarginal line, the upper part of which from costa to vein 6 is continuous, represented by a rounded spot beyond cell, and thence to anal angle by three disconnected dashes; between veins 6 and 7 a large flattened oval yellow ring, round a velvety black central oval, the outer end of which bears a silvery crescent, the whole preceded by a silvery spot; the marginal space, the outer two-thirds of costa, and the space beyond basal line dull fulvous; a silvery spot at middle of costa, and scattered silvery scales across wing beyond basal line and along inner margin; all the space below the ocellus finely speckled with olive-ochreous, above vein 6 more or less fulvous-tinged: fringe grey.

Underside of forewing like upper, but basal area paler grey and the white band wider. Hindwing whitish grey, with the costal, apical, and hindmarginal regions dark grey.

Head, thorax, and abdomen mouse-colour: abdomen beneath pale grey; pectus white.

Expanse of wings: 37 mm.

1 ♂ from Santo Domingo, Carabaya, Peru, 6000 ft., November 1901, wet season (Ockenden).

Subfamily BRACCINAE.

Devarodes gen. nov.

Forewing: with costa curved; apex blunt; hindmargin obliquely curved.

Hindwing: rounded.

Antennae of ♂ bipectinated; palpi short, porrect, pointed; tongue and frenulum present: a foveal bar visible in forewing.

Neuration: forewing, cell quite half as long as wing; discocellular concave; first median nervule at two-thirds, second shortly before third; radials normal; 7, 8, 9 stalked from upper angle of cell, 10 and 11 free; 11 anastomosing with 12 and 10 with 11 and again with 8, 9: hindwing, costal closely approximated to subcostal near base; the two subcostals from end of cell or stalked.

Type: *D. bubona* Druce (*Devara*).

Devara Wlk., *Cat.* vii. p. 1660 (1856), was formed for his own previously described species *Chrysauge erycinoides*, identical with *Emplocia bifenestrata* H. S. (1855) the type of *Emplocia*, and therefore falls.

204. **Devarodes albibasis** spec. nov.

Closely allied to *D. bupaloides* Wlk., differing from that species in having the basal areas of both wings white, whereas *bupaloides* has the inner margin of both wings and costal margin of hindwing black. In the forewing the submedian vein is black across the white area.

Expanse of wings: 35 mm.

1 ♂ from La Merced, Upper R. Toro, Peru.

205. **Devarodes bubona** ab. **translucens** nov.

Differs from the type-form of *bubona* Druce in having the white basal area of forewing larger, and a similar area on hindwing also of dull bluish grey scales, leaving the margins only broadly black. On the underside the grey shades are all whiter.

1 ♂ from Rosario, St. Inez, E. Ecuador, 1250 m., October 1899 (Haensch).

Sent with an example quite typical from the same locality.

206. **Devarodes semialbata** spec. nov.

Forewing: black, with a basal blotch and a small spot before apex between veins 4 and 6 pearly white; the edge of the basal blotch is ragged, running from one-third of costa obliquely outward to below vein 3, then bent at right angles, to inner margin beyond middle; the veins are also blackish, especially the costal and subcostal, and the costal edge, the subcostal space at base being dusted with dark scales; fringe dull black.

Hindwing: pearly white, with a broad diffusely edged black marginal border from costa before apex to anal angle, the base and inner margin slightly black-dusted.

Underside of forewing like upper, but the apical area grey-black beyond a broad curved velvety black band; an additional white costal spot at the edge of the black band. Hindwing, with the dark margin cut up into three blotches, one square, deep black, before apex, a diffuse blackish one from apex to middle, and a smaller submarginal one between veins 2 and 4, the intervals bluish grey.

Head, thorax, and abdomen blackish; sides of face, basal joint of antennae beneath, and underside of abdomen and legs whitish.

Expanse of wings: 26 mm.

1 ♂ from Marcapata, E. Peru (4500 ft.).

207. **Devarodes vestigiata** spec. nov.

Forewing: dark smoky brownish fuscous, the veins and cell-spot blackish; basal third, except along costa, white, its outward edge diffuse; a cloudy pale brownish sinuate band before hindmargin, formed of patches between the veins, starting from below costa before apex, marked with whitish scales above and below vein 7, incurved from 5 to 2, then bent out to anal angle, the intervals on either side of vein 6 beyond discocellular with faint brownish streaks; fringe concolorous.

Hindwing: white, with a broad curved marginal border from before apex to above anal angle.

Underside like upper, but without any trace of the band of forewing; the whitish basal area rather larger.

Head, thorax, and abdomen brownish fuscous; face with whitish lateral edges; crown with a pale patch at middle; patagia pale above near base and beyond middle; tongue yellow.

Expanse of wings: 33 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

208. **Emplocia coliadata** spec. nov.

Forewing: velvety black, with two whitish hyaline spots; one elongate between the median vein and submedian fold, reaching from base to half the length

of wing; the other subquadrate, beyond cell; the space beneath the basal blotch between the submedian fold and vein is mixed with pale scales; fringe black.

Hindwing: pale yellow, with the outer third deep black, its edge diffuse and shouldered at the rise of 6 and 7.

Underside of forewing velvety black in cell and beyond and below it towards anal angle; a stripe of white scales between costal edge and subcostal vein; apical area olive-grey-brown, with the veins across it black; the basal streak white from median to submedian vein. Hindwing with all the veins black, the marginal border smoky grey.

Face and antennal shaft snow-white; palpi, pectinations of antennae, and vertex black; the last with a white spot on its middle and some white behind the eyes; shoulders and patagia black and white mixed; abdomen grey, the basal segments whitish on dorsum.

Expanse of wings: 39 mm.

1 ♂ from Upper Toro River, La Merced, Peru, August, September 1901, 3000 m. (Simons).

209. **Nelo divisa** Warr., *Nov. Zool.* vii. p. 192 (1900), and ab. **radiata** id., *l.c.* viii. p. 474 (1901).

The ♀♀, both of the type form and the aberration, are larger than the ♂♂, expanding 34 mm.; they differ from the ♂♂ only in the greater extent of the red markings. Both ♀♀ come from Ecuador, accompanied by a ♂, which also is larger than the type specimen, being 30 mm. in expanse.

210. **Sangala aenea** spec. nov.

Like *Sangala antiphates* Druce above: the *forewing* with a few red scales beyond lower angle of cell.

Underside of forewing with a short red streak at base of costa and some red subcostal scales beyond; hindwing without any trace of pale blotches below apex; both wings dark bronzy brown, with a slight bluish tinge, the veins of the hindwing dark. Abdomen with slender red lateral lines.

Expanse of wings: 38 mm.

2 ♂♂ from Chanchamayo, January—August 1901 (Hoffmanns).

211. **Sangala regia** spec. nov.

Forewing: black-brown, with a narrow red line along costal vein, and beyond the cell an elongated red blotch from the subcostal to below vein 2, rounded and narrowed at top and bottom, outwardly slightly curved, the veins crossing it forming protruding teeth on the outside edge, veins 2 and 6 being marked across it with black scales.

Hindwing: rather browner.

Underside bronzy-brown; the cell nearly filled up with red and sometimes confluent above with the large blotch; space above submedian fold, below cell, and round the red blotch black; the veins finely black. Hindwing with the veins thickly black; a curved postmedian and marginal darker band, with a paler band between them; base of wing red.

Head, thorax, and abdomen black; a white spot in middle of forehead above, one behind each eye, and one laterally at base of shoulders; legs black; the base

of coxae and femora white-spotted, and one or two white spots on sides of abdomen at base. The pectinations of antennae as in *Sangala*, but longer than usual.

Expanse of wings: 44 mm.

2 ♂♂, Chanchamayo, Peru, June—August 1901 (Hoffmanns).

Allied to *justina* Druce and *numbalensis* Dogn.

212. **Sangalopsis crescens** spec. nov.

Forewing: brown-black; beyond middle of wing an oblique roughly crescent-shaped red band from subcostal to vein 1, its outer edge regularly curved, its inner irregularly waved; fringe concolorous.

Hindwing: brown-black, without markings.

Underside similar, but the apex and costa of forewing paler, dull brown; hindwing also paler, with the veins black.

Head, thorax, abdomen, and legs all black.

Expanse of wings: 30 mm.

5 ♂♂ from Chanchamayo, Peru, June—August 1901 (Hoffmanns).

The red crescent varies in breadth.

Allied to *S. lippa* Schaus, from which it is distinguished by the absence of red markings on body and underside of hindwing.

213. **Sangalopsis curvifera** spec. nov.

Forewing: dark velvety brown; an oblique dull orange blotch beyond cell from just above vein 6 to vein 2, narrow above, broader and rounded below, the outer edge slightly curved and well defined, the inner diffuse, crossed by dark veins; fringe concolorous.

Hindwing: wholly velvety brown.

Underside dark brown, slightly paler towards apex; the orange blotch larger hindwing deep brown with the veins black.

Head, thorax, and abdomen all brown-black.

Expanse of wings: 38 mm.

1 ♂ from Rosario, St. Inez, East Ecuador, 1250 m., April 1899 (Haensch).

214. **Sangalopsis ficifera** spec. nov.

Forewing: brown-black, with a large orange fig-shaped blotch just beyond middle of wing, the stalk starting from costal vein a little beyond middle, the broad end touching vein 1.

Hindwing: somewhat browner.

Underside grey-brown, darker round the blotch; this is marked beneath costa by a short patch of white scales; the patch itself is flat and broad towards costa, and has its inner edge irregular and jagged. Hindwing with the veins thick and black; a patch of white scales from costa to the base of veins 6, 7, and another on inner margin to the origin of vein 2; a curved black submarginal band narrowing to anal angle, the area beyond it paler.

Head, thorax, and abdomen black; antennae and legs black.

Expanse of wings: 25—30 mm.

2 ♂♂ from Chanchamayo, Peru, June—August 1901 (Hoffmanns).

The smaller specimen has the white markings underneath the hindwing more restricted.

215. **Sangalopsis flaviplaga** spec. nov.

Forewing: deep brown-black; a short orange streak from base above subcostal vein; an oblique orange blotch beyond cell from subcostal vein to vein 1, faintly curved and well defined on its outer edge, slightly bent in at middle on the inner edge; fringe brown-black.

Hindwing: uniform brown-black.

Underside with costal yellow streak at base broader; the apex of wing beyond the orange blotch paler; hindwing deep brown, with the veins black.

Head, thorax, and abdomen black.

Expanse of wings: 32 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

216. **Sangalopsis fulvimedia** spec. nov.

Forewing: black; the middle third occupied by a deep orange fascia, not quite touching either costa or inner margin; its outer edge from just beyond middle of costa, slightly but regularly curved; its inner edge jagged, forming a rectangular projection on the median and an acute point on the subcostal vein, above which a narrow fine-pointed streak of orange is emitted from the blotch to base.

Hindwing: brown-black.

Underside brown: forewing with the costal streak broader; the orange markings limited by darker brown. Hindwing with the veins thick and black.

Head, thorax, abdomen above and below, legs, and antennae all black; a small orange lateral spot at base of forewing.

Expanse of wings: 36 mm.

3 ♂♂ from Chanchamayo, Peru, June—August 1901 (Hoffmanns).

217. **Sangalopsis luteiplaga** spec. nov.

Forewing: deep brown black, with a large luteous blotch beyond cell, reaching from vein 7 to below vein 2, rounded at top and bottom, and of nearly uniform width throughout; fringe brown-black.

Hindwing: uniform brown-black.

Underside dull brown, deeper from base to blotch, and narrowly round blotch; the blotch broader, straight cut and square at top, more pointed toward anal angle; hindwing with the veins black.

Head, thorax, and abdomen black.

Expanse of wing: 40 mm.

1 ♂ from Baños, Eastern Ecuador, September 1899 (Haensch).

218. **Sangalopsis signigera** spec. nov.

Differs from *S. flora* Warr. (*Nelo*) in the position and shape of the red blotch; in *flora* this is beyond middle of wing, therefore more vertical in direction, and broader below than above; in *signigera* the blotch is exactly central, and more oblique, of uniform width throughout, and emitting a fine red streak basewards along the subcostal vein.

Underside the same. A small red dot on side of thorax at base of forewing.

Expanse of wings: 32 mm.

2 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Closely allied to *S. fulvimedia* from Peru, but smaller, and the transverse blotch much narrower.

Subfamily NEPHODIINAE.

Heteroleuca gen. nov.

Like *Nipteria* in shape and neuration of wings, except in one point: the discocellular of forewing is oblique inwards from the top end of cell for three-fourths, then angled outwards, vein 5 from its middle, above the angulation. Pectinations of the antennae of the ♂ altogether different, being stiff and broadened at the summit, exactly like those of *Nelo* and *Sangala*.

Type: *Heteroleuca albida* spec. nov.

219. **Heteroleuca albida** spec. nov.

Forewing: dull white, semitransparent, the veins brown; costal area above subcostal vein slightly luteous-tinged, the costal edge grey; fringe brown-grey with white base.

Hindwing: with the fringe whiter.

Underside with the veins of both wings dark.

Head, shoulders, and base of patagia luteous grey; palpi black; thorax and abdomen dull white; antennae black.

Expanse of wings: 48 mm.

1 ♂ from Chanchamayo, Peru.

Hyalopola nom. nov.

I propose this name in place of *Hyalospila* Warr., *Nov. Zool.* i. p. 425 (1894), preoccupied by Ragonot, *Nouv. Genres et Espèces de Phycitidae* p. 11 (1888).

Hydatoscia gen. nov.

Forewing: costa slightly curved throughout; hindmargin elbowed at vein 4, vertical, slightly concave above, oblique and concave below.

Hindwing: with apex rounded, and anal angle distinct; hindmargin crenulate, with a distinct tooth at vein 4.

Antennae of ♂ pectinated; of ♀ subserrate, setulose; palpi weak, porrect, slightly upcurved, scaled beneath; tongue and frenulum present.

Neuration: forewing, cell more than half as long as wing; discocellular sinuous, incurved above, oblique below; vein 2 at one-half, vein 3 at five-sixths; 5 from just below middle of discocellular, from the upper end of the oblique lower arm, sinuous; 6 from upper end of cell; 7, 8 stalked from the same point; 9, 10 free, from cell; 11 out of 12, 10 anastomosing with 11 and 9 with 10, 9 again anastomosing with 8 rather strongly before costa; 7 curved downwards: hindwing, costal and subcostal closely approximated to nearly half of cell, 7 just before end of cell; no radial; medians as in forewing; scaling very sparse, wings nearly transparent. Forewing with foveal bar developed in both sexes.

Type: *H. ategna* Druce (*Trygodes*).

220. **Leuculopsis bilineata** spec. nov.

Forewing: glossy white; the veins finely brownish; the lines pale brownish; first at one-third slightly curved outwards to two-fifths of inner margin; second from three-fourths of costa, outwardly curved to vein 2, then parallel to first line, to three-fifths of inner margin; fringe white, with a darker brown dividing line from vein 7 to 2.

Hindwing: with outer line only.

Underside white without markings: costa of forewing bronzy grey.

Head and shoulders yellowish; thorax, patagia, and abdomen white.

Expanse of wings: ♂, 35 mm.; ♀, 35—40 mm.

2 ♂♂, 3 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, January 1902, wet season (Ockenden).

221. **Nipteria astyochiodes** spec. nov.

Forewing: white, somewhat discoloured along costa, with a linear grey cell-spot on discocellular, and two waved grey lines; first vertical from costa a little before the middle, straight above the median vein, then waved and oblique inwards; outer line from four-fifths of costa, outcurved at first, then parallel to hindmargin; a thin marginal line and the veins grey; fringe white.

Hindwing: with a single waved grey marginal line.

Underside white; the costa of forewing broadly grey towards base.

Head, thorax, and abdomen white, the head and shoulders yellowish-tinged.

Expanse of wings: 28 mm.

2 ♂♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

In markings a perfect mimic of *Astyochia elaelia* Druce and *philyra* Druce; but the discocellular of forewing is straight, and the hindwing of ♂ without any tuft of hairs on inner margin near base. The hindwing, as in *philyra*, is also slightly protuberant at middle of hindmargin.

222. **Nipteria flaviplaga** spec. nov.

Forewing: greyish fuscous, thickly speckled with dark fuscous; the lines dark fuscous, with darker dots on the veins; the first at nearly one-third running a little outwards to the median, then vertical, bent inwards on submedian fold; outer line from four-fifths of costa straight to vein 6, then oblique and straight inwards to two-thirds of inner margin, marked beyond vein 5 by an irregular small yellow blotch; cell-spot distinct, black; fringe brownish fuscous.

Hindwing: wholly blurred dark grey, with traces of a dark cell-spot and of a curved postmedian dark line.

Underside of forewing dark fuscous and striated only along costal and hindmargin, the whole interior being paler and the line faint; the hindwing, on the other hand, darker than above, with the line and cell-spot dark and distinct; the yellow spot of forewing as on upperside.

Head, thorax, and abdomen fuscous like wings.

Expanse of wings: 40 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

223. **Nipteria flebilis** spec. nov.

Forewing: dull cinereous grey, spotted and suffused with darker grey along costal and hindmargin and in the basal area; the costal edge with some white marks in the apical half; the two lines dark; the first obscure, from one-fourth of costa to one-third of inner margin; the outer line thick, straight and slightly waved, from four-fifths of costa to two-thirds of inner margin, edged outwardly with a faintly paler line; marginal area dark above, paler below, the limit of the

darker and lighter shade running obliquely from the outer line at vein 4 to hindmargin at vein 2; cell-spot dark and large; fringe dull grey with white mottling between the veins.

Hindwing: paler, more distinctly striated, the outer half dark; fringe as in forewing.

Underside whitish, with distinct dark greenish fuscous speckling and striation; inner marginal half of forewing dull whitish; costa spotted with dark; cell-spot and outer line from costa to vein 4 dark. Hindwing with dark cell-spot and an interrupted central line, formed of a blotch at costa and another between the median and vein 2; the inner margin white.

Face and collar pale grey; palpi, vertex, and thorax dark; abdomen paler with dark segmental rings.

Expanse of wings: 36 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

A dull-looking species, but with strongly white-mottled fringes.

224. **Nipteria oblitaria** spec. nov.

Forewing: dark grey in ♂, paler, more brownish grey in ♀; the whole wing surface, except the costal area, appearing blurred, as if rubbed; the darker costal space slightly striated; the only markings are a round dull black cell-spot, and an outer oblique line from costa at five-sixths, bent on vein 5, below which it is very indistinct; fringe dark grey.

Hindwing: with cell-spot and the line curved.

Underside smoky brownish fuscous, thickly speckled and striated with blackish; cell-spots and outer line black and distinct; in the ♀ the inner half of forewing is slightly blurred, but in the ♂ the blurred space is as extensive as on the upperside and quite pale, greyish ochreous.

Head, thorax, and abdomen dark grey in the ♂, brownish grey in the ♀, agreeing with the wings.

Expanse of wings: 44 mm.

A pair from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

This species is probably near *N. tapponia* Th. Mg., which I have not seen.

225. **Nipteria satyrata** Warr., *Nov. Zool.* vii. p. 190, ♀ (1900).

The ♂ of this species differs from the ♀, in that the upper surface of the wings is wholly dull sericeous grey without darker markings, except the cell-spots, and three vein dashes representing the costal portion of exterior line on forewing. Beneath like the ♀, but the dark markings and band of hindwing less striking.

The ♂ from which this description is made is from Chimate, Bolivia, and is of the same size as the ♀, 52 mm.

226. **Nipteria subocellata** spec. nov.

Forewing: dull smoky grey, semitransparent; the hindmargin, the entire apical area beyond the cell, and the costal area above subcostal vein smoky blackish; cell-spot black, preceded by a small blotch slightly paler than the ground colour; fringe blackish, veins slightly brownish.

Hindwing: dull smoky grey, rather darker towards hindmargin; cell-spot obscure.

Underside of forewing like upper but not so dark, the small blotch before cell-spot whitish and conspicuous. Hindwing dark smoky grey, with small cell-spot; inner margin paler.

Head, thorax, and abdomen dingy dark grey; antennae blackish.

Expanse of wings: 32 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Distinguished by the pale blotch before cell-spot.

227. **Nipteria transducta** spec. nov.

Forewing: dark ashy grey, semitransparent, faintly dappled with darker; the lines fuscous; the first slender, from one-fourth of costa, running outwards and bent below costa, then vertical to one-third of inner margin; second line from apex, thick and straight, to two-thirds of inner margin, the area immediately beyond it whitish, becoming again dappled dark grey at hindmargin; all the veins, the marginal line, and discocellular finely fuscous, the discocellular with a dark spot at middle; fringe paler grey.

Hindwing: with the outer line of forewing continued straight across to two-thirds of inner margin, nearly touching the cell-spot.

Underside the same, but paler in all respects; the hindwing with a curved submarginal line, joining outer line on inner margin, which is faintly visible above also.

Face, thorax, and abdomen grey: vertex bright yellow.

Expanse of wings: 40 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, December 1901, wet season (Ockenden).

The hindmargin of hindwing bears a small blunt tooth at vein 4.

228. **Nipteria turpis** spec. nov.

Forewing: dull dark grey, thickly striated with darker; the inner and outer lines finely blackish and marked by spots on the veins; first from costa at one-fourth to inner margin at one-third, bent outwards to the median vein, then vertical or slightly oblique inwards; outer line from three-fourths of costa, vertical to vein 5, then oblique and straight to three-fourths of inner margin; cell-spot blackish; fringe dark grey.

Hindwing: similar, but less striated and paler towards base, darker along inner and hindmargins; outer line alone visible, more or less obsolete above middle; cell-spot obscure.

Underside like upper; the outer line only marked in both wings.

Head, thorax, and abdomen all concolorous.

Expanse of wings: ♂, 35 mm.; ♀, 38 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

229. **Perigramma nigricosta** spec. nov.

Forewing: white, the veins brownish; the costa thickly black from near base to just before apex; fringe white.

Hindwing: white, without markings.

Underside wholly white; the costal edge of forewing grey.

Thorax and abdomen white; face and vertex dark brown.

Expanse of wings: 44 mm.

5 ♂♂ from San Ernesto, Bolivia, 1000 m., August, September 1900, (Simons).

230. **Perigramma semipleta** spec. nov.

Forewing: white; the costa narrowly, the inner margin below submedian vein, the hindmargin, and a bar straight from three-fifths of costa to anal angle dark grey; the apex more broadly grey; fringe grey; the median veins dark grey.

Hindwing: with costa and hindmargin grey; the inner margin narrowly and the space between veins 3 and 4 dull grey; fringe whitish; all the veins grey.

Underside similar; but in the forewing the costa is broadly grey from base to bar, and in the hindwing only the costa and hindmargin are grey.

Face and vertex brownish fuscous; thorax and abdomen white; tips of patagia and anal segments of abdomen slightly grey-tinged.

Expanse of wings: 44 mm.

1 ♂ from San Ernesto, Bolivia, 1000 m., August, September 1900 (Simons).

In *P. nervaria* Guen. the space between veins 3 and 4 on the forewings is filled up with grey, and the wings have no bar.

Zeuctostyla gen. nov.

Forewing: elongate; costa straight, convex only towards apex, which is rounded; hindmargin obliquely curved.

Hindwing: with both angles and hindmargin rounded.

Antennae of ♂ bipectinate; palpi upcurved, hairy beneath, third segment hidden; tongue and frenulum present; legs slender; hindtibiae somewhat thickened, with four spurs and a pencil of hairs.

Forewing with a fovea at base and a short bar above it.

Neuration: forewing, cell two-thirds of wing; discocellular obliquely concave; first median nervule from before one-half; second at three-fourths; radials long-stalked together, from upper end of cell, the subcostal strongly depressed towards its extremity; 7, 8, 9 stalked from the bend, 7 strongly bent downwards towards margin; 10, 11 coincident, anastomosing with stalk of 7, 8, 9. Hindwing, cell about half as long as wing; discocellular oblique; 6, 7 stalked; no true radial.

Type: *Zeuctostyla rubricollis*, spec. nov.

231. **Zeuctostyla rubricollis** spec. nov.

Forewing: hyaline blnish; costal, inner, and hindmargins black, the last more broadly, especially at apex; the median vein and its three branches thickly black, the two folds more narrowly; an oblique black bar over the discocellular; the stalk of 5 and 6 thickly black to the fork, then finer; submarginal area above vein 4 white.

Hindwing: the same; the inner margin very narrowly black; subcostal vein and branches black; discocellular narrowly black; no white area.

Underside similar.

Head, thorax, and abdomen black; basal joint of palpi, pectus, collar, and shoulders orange-red.

Expanse of wings: 33 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, January 1903, wet season (Ockenden).

In size and superficial appearance this species mimics *Tanaostyla unimacula* Warr.; but the difference in neuration and the red collar will serve to distinguish it.

Subfamily BISTONINAE.

Hetererannis gen. nov.

Forewing: elongate; costa straight; apex bluntly rounded; hindmargin oblique, faintly curved; anal angle rounded off; fovea present.

Hindwing: produced below apex, rounded; hindmargin nearly straight; anal angle rectangular.

Antennae of ♂ strongly bipectinate, the extreme tips serrate. Palpi shortly porrect, rough beneath, the segments obscured; tongue absent; frenulum well developed. Hindtibiae with four spurs, hardly swollen.

Neuration: forewing, cell more than half as long as wing; discocellular inangulated in middle; first median nervule just beyond middle, second at five-sixths, well before end of cell; lower radial from slightly above centre of discocellular, upper from upper angle; 7, 8, 9 stalked from a little before end of cell; 10 and 11 coincident. Hindwing, costal and subcostal closely approximated for quite half of cell; 7 only just before end; no radial; medians as in forewing.

Type: *Hetererannis obliquaria* Grote (*Bourmia*).

Manifestly allied to *Erannis* Hüb., but separated by the bipectinate antennae of the ♂ and the presence of a fovea in the forewing.

Subfamily ASCOTINAE.

232. **Bryoptera basisignata** spec. nov.

Forewing: white, finely black-speckled, and suffused in parts with pale sepia-brown; inner and outer lines strongly marked, velvety black; the inner from one-fourth of costa, slightly angled inwards on the subcostal vein, then obliquely curved inwards, and much thickened below the median vein, preceded in lower half by a brown shade; outer line from two-thirds of costa to three-fifths of inner margin, slightly angled outwards on veins 6 and 4, insinuate between, below vein 4 incurved; median line fine, from a dark spot on costa, rectangularly bent outwards round the distinct round black cell-spot, then curved parallel to outer line, the space between them below the middle filled in with sepia-brown; submarginal line whitish, regularly zigzag, the space between it and outer line pale brown, mixed with whitish towards inner margin; marginal area brownish, darker in some specimens at costa and beyond cell; a row of distinct black marginal spots; fringe white, mottled with grey brown.

Hindwing: with a velvety black streak near base of inner margin; a black cell-spot, preceded by a brown shade from middle of inner margin, the inner edge of which is straight; outer line and marginal area beyond it as in forewing.

Underside dirty greyish, with darker marginal borders, and distinct cell-spots; apex of forewing and fringes of both wings whitish.

Head and thorax white sprinkled with grey scales; abdomen greyer, with the segmental divisions darker, the second segment with a broad velvety black ring; palpi externally blackish.

Expanse of wings : 35 mm.

4 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 feet, November 1901, wet season (Ockenden).

Distinguished from other species of the genus by the strong black inner line of the forewing, bent round on inner margin of hindwing, and continued across the abdomen ; also by the large black cell-spots.

233. **Bryoptera canidentata** spec. nov.

Forewing : white, with a few grey speckles ; costa with some fine dark striae ; basal and exterior lines black ; the first thick, from one-fourth of costa, vertical, curved basewards only below submedian vein, preceded in its lower half only by a similar thick line ; outer line finer, from two-thirds of costa to two-thirds of inner margin, slightly waved, and bluntly bent at vein 4 : median line outwardly oblique from costa above the small cell-spot, roundly bent at vein 6 and more sharply at vein 4, then parallel and near to outer line, followed by a similar parallel line, the interval between them filled up with olive scales ; submarginal line acutely dentate, white with dark edges, the teeth, except at costa, filled up with olive scales, like the shade following the outer line ; marginal area whitish, containing a single dentiform mark on hindmargin beyond the cell ; marginal line velvety black, interrupted at the veins and swollen between them ; fringe white, with an olive dividing line.

Hindwing : with a curved black mark at base ; an olive cloud from inner margin touching postmedian line to the end of cell ; the rest as in forewing.

Underside smoky fuscous, the marginal borders broadly blackish ; apex of forewing and fringes of both wings white.

Head, thorax, and abdomen white, the last with the base of segments on dorsum fuscous, and with a black ring at base ; tips of patagia and palpi externally black.

Expanse of wings : 30 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

234. **Cleora gracilis** spec. nov.

Forewing : pale grey dusted with darker in basal two-thirds ; the lines blackish, very fine ; costa with five dark linear blotches, indicating their origin, at one-fifth, one-third, three-fifths, two-thirds, and five-sixths respectively ; the lines outcurved above, then oblique inwards, the third (exterior) angulated beyond cell ; median area between first and third darker grey ; cell-mark lunate, with dark edge ; submarginal line waved, parallel to hindmargin ; the preceding space paler ; an oblique dark shade from below apex ; a submarginal row of distinct dark round spots ; marginal line fine, black ; fringe grey.

Hindwing : with a dark fine nearly straight line at two-thirds ; the basal space within it dark grey, containing the obscure lunate cell-mark ; the rest as in forewing.

Underside glossy pale grey, washed in basal area with darker ; cell-spots blackish, obscure ; a dark apical cloud on forewing, enclosing a small whitish apical patch.

Head, thorax, and abdomen pale grey ; the vertex white.

Expanse of wings : 30 mm.

1 ♀ from Jamaica.

The apex of forewing is slightly acute ; the antennae with the segments angular.

235. **Cymatophora dislocata** spec. nov.

Forewing : pale ochreous, with slight greenish tinge, speckled with brownish ; the costa striated with brown ; the lines dark olive-brown ; first from one-fourth of costa to nearly one-third of inner margin, outcurved above and below median vein, double ; median shade obscure, from a costal spot just before middle to inner margin at two-fifths, passing just in front of the black cell-spot ; outer line from three-fourths of costa, lunulate-dentate, to middle of inner margin, followed closely below costa and above inner margin by a dark olive-brown shade ; submarginal line interrupted, preceded at costa by a brown line concave outwards to vein 6, by two lunules filled up with brown and followed by a subquadrate brown patch, beyond cell, and by traces of lunules below it ; a slight dark blotch beyond it at anal angle ; an apical pale blotch ; fringe concolorous.

Hindwing : with nearly straight double antemedian and postmedian olive-brown lines, slight curved submarginal shade, and black cell-spot.

Underside much speckled, and with all the lines diffusely marked ; marginal area beyond outer line, except apical blotch, more or less filled with fuscous shades.

Head, thorax, and abdomen like wings ; upper half of face and palpi fuscous-tinged.

Expanse of wings : 52 mm.

1 ♂ from Peru.

Very much like *commotaria* Mssn., but ochreous not grey in ground colour ; the lines all in slightly different places, nearer the hindmargin ; apical pale blotch more conspicuous ; submarginal line below costa concave outwards, not straight, as in *commotaria*.

236. **Cymatophora muscosa** spec. nov.

Forewing : dull olive-grey-brown, thickly powdered with dark atoms, rendering the markings indistinct ; costal edge paler, with numerous short black streaks ; first line from costa at two-fifths, bent on the subcostal vein, then vertical to one-third of inner margin ; outer line at two-thirds, dentate-lunulate, parallel to hindmargin, followed by a deeper shade ; submarginal line half-way between outer line and hindmargin, interrupted and marked by dark blotches between the veins, those beyond cell and on submedian fold being plainest ; obscure dark marginal spots ; fringe concolorous ; cell-spot blackish.

Hindwing : rather paler ; postmedian line nearly straight, followed by a darker shade ; submarginal very obscure ; cell-spot black.

Underside duller, with the markings very obscure ; a darker submarginal shade.

Face and third segment of palpi pale ochreous ; rest of palpi fuscous ; vertex and thorax like forewings ; the tips of the shoulders dark ; abdomen rather paler.

Expanse of wings : 43 mm.

1 ♀ from Ecuador.

237. **Hymenomima carneata** spec. nov.

Forewing: whitish, suffused throughout with pale flesh-colour, slightly black-speckled; the costa with short black striae; the lines velvety black, strongly marked; first from one-fourth of costa, obliquely curved inwards to near base of inner margin, thickened at the veins; outer line from three-fifths of costa to about middle of inner margin, sinuous, marked with thick black teeth on the veins, followed by a shade darker than the ground colour; a median line from a black spot on costa, outcurved and touching the black cell-spot, obsolete below the middle; submarginal line whitish, irregularly lunulate, the lunules marked internally by black scales, which beyond cell and at costa form black blotches; black marginal spots connected by black dashes with the outer teeth of submarginal line; fringe flesh-colour.

Hindwing: with a black line at base and a diffuse curved blackish antemedian shade from inner margin to subcostal vein, followed by a large black cell-spot; the rest as in forewing.

Underside of forewing smoky fuscous, the outer margin smoky blackish, the inner margin whitish; costa ochreous, with black spots and striae; cell-spot black and large. Hindwing whitish, with only a dark cell-spot.

Thorax and abdomen flesh-colour, the latter with a black ring at base; head pale, mixed with flesh-colour; shoulders white, tipped with black; palpi black externally.

Expanse of wings: 38 mm.

4 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Distinguished by the coloration and the blackness of the markings.

238. **Hymenomima rufata** spec. nov.

Forewing: whitish, thickly speckled and suffused with reddish brown; the lines red-brown, thick and well-marked, the inner and outer lines geminate; basal line from one-fourth of costa, angled outwards on subcostal vein, then oblique inwards, twice curved, to near base of inner margin, there joined by a similar line nearer base; median line bluntly bent in cell beyond the reddish cell-spot, then oblique, irregularly dentate, to two-fifths of inner margin; outer line from two-thirds of costa to three-fifths of inner margin, lunulate-dentate, more or less parallel to hindmargin, followed by a slightly duller red line; submarginal line whitish, zigzag, preceded by a reddish brown shade and followed by a less distinct one, except between veins 3 and 4, where there is a paler space; marginal line finely black, interrupted at the veins, connected by black dashes with the teeth of the submarginal line; fringe reddish ochreous, mottled with darker beyond the veins, which are themselves rufous; costal edge marked with dense reddish and pale striae.

Hindwing: paler, being only striated, not suffused, with rufous; a dark line at base; a straight reddish antemedian line continuing the median of forewings; a blackish cell-spot; the rest as in forewing.

Underside rufous grey, faintly speckled; both wings with median and outer lines, the latter very strongly dark-dotted on the veins; both cell-spots distinct; costa of forewing with dense dark striations; marginal area of forewing dark fuscous, with a still darker central cloud; hindwing with slight submarginal

cloud, the whole wing paler; fringe pale ochreous with concise reddish dashes beyond veins.

Head, thorax, and abdomen grey, mottled with reddish, the abdomen paler; a thick red-brown ring on basal segment, edged with paler; anal tuft ochreous.

Expanse of wings: 35—40 mm.

5 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

239. **Hymenomima schisticolor** spec. nov.

Forewing: pale slate-colour, without speckling; the lines and veins dark slate-colour; a dark spot at base of cell; first line at one-sixth, bent in cell, then oblique, touching the fovea; second, antemedian, at one-third, bent in cell and touching the large triangular cell-spot, then sinuous inwards; outer line from three-fifths of costa, angled on veins 6 and 4, and dentate on the veins, strongly sinuous throughout, to middle of inner margin, followed by a similar but much finer line; submarginal line pale, dentate, between two dark slate-coloured shades, of which the inner one is the darker and somewhat interrupted; marginal spots between the veins black; fringe concolorous.

Hindwing: similar, but without first line.

Underside pale cloudy slate-colour, with dark cell-spots; the marginal borders darker, in the forewing broad.

Head, thorax, and abdomen pale slate-colour; the vertex, thorax, and shoulders whiter; a pair of dark spots on thorax, one on each of the patagia, and one in centre of face above; palpi externally blackish.

Expanse of wings: 26 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, November 1901, wet season (Ockenden).

Vein 5 from a little below 6.

240. **Iridopsis candidata** spec. nov.

Forewing: white, slightly speckled with dark grey or blackish; basal and marginal areas washed with pale chestnut; the lines black, starting from black costal spots; first at one-fourth, nearly straight, blacker on the veins; median from before middle of costa to before middle of inner margin, waved and partly interrupted, marked by black dashes on veins, and touching the cell-spot, which is large and oval, black-edged, filled up by semi-erect bluish white scales; above it is a small round black spot above the base of vein 6; outer line at two-thirds, marked only by black vein-spots; submarginal line black, thick, lunate, followed between veins 4 and 7 by a large black blotch touching hindmargin; a row of black marginal spots, not quite touching margin; the brown suffusion is very faint between veins 3 and 4, leaving there a square white patch with the fringe white beyond it, the rest of the fringe being brown, chequered with blackish.

Hindwing: with a dark line at base; a slight grey interrupted antemedian and postmedian line, darker at the veins, and a cloudy blackish submarginal line; large black marginal spots between the veins not quite touching margin, and smaller spots on the margin at the vein-ends; the ends of veins 4 and 6 marked with brown; fringe white, chequered with blackish.

Underside glossy white, the costa of forewing ochreous, with a few dark

striae; a black costal spot near middle touching the large black cell-spot; a broad marginal black border enclosing a white spot from vein 4 to below 3; fringe white at apex and below middle, blackish from 4 to 7. Hindwing with narrower black border from apex to vein 4, continued to anal angle as a sub-marginal shade.

Face and palpi dark fuscous above, whitish below; vertex white, with a black spot in middle; shoulders and patagia white, with the apical half fuscous; the tips of the patagia chestnut-brown; thorax mixed light and dark; abdomen white, the basal segment with two black spots, the second with a broad black ring; anal tufts ochreous, with a blackish fleck at base on dorsum; abdomen beneath white; legs broken.

Expanse of wings: 46 mm.

1 ♂ from Salampioni, Bolivia, 800 m., August 1901, dry season (Simons).

Quite distinct from *calidaria* Guen., with which at first sight it might be confused.

Iridopsis schistacea spec. nov.

Forewing: slaty grey, minutely black-speckled; costa with fine black striae; lines fine, black; first at one-fourth of costa, slightly bent in cell, then vertical, preceded by a chestnut brown shade, edged inwardly with darker; outer line from three-fourths of costa, irregularly crenulate, angled below vein 6, then obliquely waved inwards, followed by a chestnut shade; submarginal line very faintly marked, preceded by a biangulate black blotch between veins 4 and 6; cell-spot large, ocelloid, edged with black, with traces of a fine irregularly crenulate median line, also double, curved round it, and approximated to, or touching, outer line on inner margin; marginal spots round, black; fringe concolorous.

Hindwing: with a straight black antemedian line, followed by a chestnut shade; outer line angled acutely below vein 6, followed by a chestnut shade; cell-spot ocelloid; marginal black spots connected by a fine marginal festoon.

Underside of the ♂ paler, of the ♀ darker, more speckled; large dark cell-spots in both wings; forewing with upper part of outer line and a subapical dark cloud.

Head, thorax, and abdomen concolorous.

Expanse of wings: 38—40 mm.

7 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The single ♀ is darker than any of the ♂♂.

Melanoscia gen. nov.

Forewing: costa straight, curved slightly at base and apex; apex somewhat produced; hindmargin oblique, slightly curved; inner margin convex.

Hindwing: narrow; hindmargin curved, faintly bent at vein 4.

Antennae of ♂ and ♀ bipectinate; palpi stout, slightly upcurved; tongue and frenulum present; hindtibiae large, with pencil of hairs and four spurs; forewing with a foveal space below median vein, covered below by a plate of pale scales.

Neuration: forewing, cell longer than half of wing; discocellular vertically concave; first median at one-half, second at five-sixths; radials normal; 7, 8 stalked from before end of cell; 9, 10, 11 stalked, 9 anastomosing with 8; hindwing, with 3 and 7 both before angles of cell.

Type: *Melanoscia felina* spec. nov.

242. **Melanoscia albimacula** spec. nov.

Forewing: blackish green, varied with large and small white spots; the costa striated with white; the large spots are six in number, all more or less round; three in the submedian interval, near base, below the origin of vein 2, and on hindmargin; two more on the hindmargin, at apex, and between veins 3 and 4; the sixth, the largest of all, immediately beyond the discocellular. In the cell is a smaller triangular spot. The smaller spots, also round, follow the course of the usual lines, and are placed between the veins, 3 beyond the basal spot, representing inner line; 8 forming a sinuous line passing beyond the large discal spot, and 7 submarginal; a few smaller irregular white marks occur in different parts, especially along inner margin; fringe white, marked darker above and below middle; discocellular mark linear, blackish.

Hindwing: with basal two-thirds white, with dusky striae, which are darker and denser below median vein; cell-spot black; a broad black marginal border with a large white spot at apex and anal angle and smaller one between.

Underside like upper, but duller.

Head and thorax greenish fuscous; tips of patagia white; abdomen dark, mixed with whitish.

Expanse of wings: 50 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

243. **Melanoscia felina** spec. nov.

Forewing: olive-ochreous, speckled with blackish green, and more or less obliterated by the dark blackish green suffusion; basal area blackish green, containing a velvety dark blotch at base of costa, and another below the median vein, and edged by an obscurely double lunulate line, the outer edge being nearly vertical; this is followed by a vertical white space, running across cell from subcostal vein to inner margin, generally narrow throughout, but in one example much broader below the middle; beyond it the cell is occupied by a large oblong velvety black blotch, including the discocellular mark, followed by a square white blotch between veins 4 and 6; outer line sinuous, dentate-lunulate, from two-thirds of costa to middle of inner margin, running outwards and bounding the white blotch to vein 4, then incurved; this line is broader below the middle, is edged outwardly with whitish or ochreous, and is preceded below middle by another dark lunulate line; marginal area filled up with dark, traversed by a paler submarginal line, often very obscure, preceded by deeper blotches, and sometimes marked by ochreous or whitish spots, in all cases ending in a whitish, tadpole-shaped, apical blotch; all the veins are ochreous, and in the paler examples the space between veins 3 and 4 remains olive ochreous; fringe dark, white at apex, and with an ochreous patch at anal angle.

Hindwing: mottled, smoky grey, with a dark cell-spot, a dark postmedian line, and two broad, partially coalescent, submarginal shades; the fringe white. In the ♀ the basal half of hindwing is white, speckled, and at base and along costa suffused with smoky grey, followed by a broad blackish marginal border.

Underside duller, the dark markings all blurred, the white blotches distinct.

Head, antennae, centre of shoulders, thorax, and abdomen yellow ochreous; sides of shoulders, the patagia, the palpi and legs externally blackish green.

Expanse of wings : ♂, 37 mm., ♀, 39 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

244. **Melanoscia occlusa** spec. nov.

Closely resembling *M. felina*, but much darker, all the paler spaces being reduced or obscured ; in particular the square white discal blotch becomes a mere white line, followed immediately by the sinuous outer line ; the apical spot is much narrower ; in one example the median vein is deep yellow throughout.

Hindwing : wholly smoky black, with deeper cell-spot and broad marginal border.

Underside wholly dark and dull, with the white markings as above.

Head, thorax, and abdomen blackish green, only the collar deep yellow.

Expanse of wings : ♂, 37 mm.

3 ♂♂ from Santo Domingo, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The species seems really distinct from *felina*.

Neofidonia gen. nov.

Forewing : broad ; costa straight, convex at apex only ; hindmargin rounded.

Hindwing : broad ; hindmargin well rounded, with slight indentation beyond cell.

Antennae of ♂ bipectinated, the pectinations short and regular ; palpi short, porrect, the second segment broad, third minute : forehead protuberant ; tongue and frenulum well developed ; hindtibiae thickened, with four spurs and a pencil of hairs.

Neuration : forewing, cell half as long as wing, discocellular oblique ; first median nervule at one-half, second at five-sixths ; radials normal ; 7, 8, 9 stalked from shortly before end of cell ; 10 and 11 coincident throughout. Hindwing, 6 and 7 from upper end of cell.

Type : *Neofidonia nigristigma* spec. nov.

Characterised by the broader, shorter wings.

245. **Neofidonia nigristigma** spec. nov.

Forewing : whitish, thickly covered with smoky grey striae, and towards outer margin suffused with fuscous ; costa white or yellowish, with fine regular black striae and three black spots at the commencement of the lines ; first at one-fourth, obscurely marked, except by black dashes on the veins ; outer at nearly two-thirds, slightly curved outwards, also marked by black teeth on the veins, and followed by a paler line ; median shortly before outer line, very indistinct ; discal mark oblong, thick and velvety black, extending the whole length of the discocellular ; submarginal line dentate-lunulate, pale grey or whitish, preceded by a darker tinge in the lunules, the tooth between veins 3 and 4 connected with hindmargin by a whitish dash ; marginal spots black ; fringe fuscous with paler mottling between the veins ; veins towards the margin ferruginous.

Hindwing : white, with pale grey striations ; cell-spot small, black, placed in a greyer curved fascia, edged by the antemedian and postmedian lines, which are marked by black dashes on the veins, those on vein 4 more largely developed ; postmedian line followed by a pale space ; submarginal line pale, indistinct and interrupted, with darker specklings on both sides ; marginal spots black ; fringe mottled pale and dark grey.

Underside white; forewing with broad black margin narrowing to anal angle; hindwing with only a few marginal striae; costa of forewing yellowish with black spots; forewing with large black cell-mark as on upperside. Hindwing with a narrow linear one; fringe of forewing dark with white mottlings below middle; of hindwing whitish with dark markings.

Head, thorax, and abdomen whitish, the last marked with grey along dorsum.

Expanse of wings: 40 mm.

2 ♂♂ from Santo Domingo, Caraḃaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

246. **Stenalcidia fumibrunnea** spec. nov.

Forewing: smoky fuscous, with a brownish tinge; the lines blackish; first curved from one-fourth of costa to near base of inner margin, preceded by a dark shade; median from middle of costa to before middle of inner margin, strongly bent out beyond the obscure black cell-spot; outer line from before three-fourths of costa, angled inwards below subcostal vein and outwards on vein 6, then curved inwards and approaching middle line at inner margin, followed by a dark shade; submarginal line waved, whitish, distinct; shallow black marginal lunules between the veins connected by dark streaks with the apex of lunules of the submarginal line; fringe chequered.

Hindwing: without basal line; the submarginal less conspicuous.

Underside much paler, without dusting; median and outer lines of both wings and the cell-spots black; outer line of forewing followed by a brownish cloud.

Head, thorax, and abdomen like wings.

Expanse of wings: 30 mm.

1 ♂ from San Ernesto, Bolivia, 1000 m., August, September 1900 (Simons).

247. **Stenalcidia guttata** spec. nov.

Forewing: white, dusted in places with black scales; all the markings black; two large black costal spots near base, from the first of which starts a curved blackish cloud and from the second a curved line of black spots to below the fovea near base of inner margin; a black costal spot at middle from which a median series of vein-spots runs to before middle of inner margin; a double black costal spot at three-fourths, from the first of which a sinuous row of black vein-spots starts, and from the second an equally sinuous black line; a row of large oval black submarginal spots between the veins, followed by a marginal series of large round spots, these spots becoming coalescent and forming black blotches at apex and anal angle; fringe white with black chequerings; cell-spot black.

Hindwing: similar, but the basal and median lines only expressed below the median vein; no black blotches in marginal area.

Underside of forewing smoky grey, of hindwing whitish; cell-spots and marginal spots present; costa of forewing with black spots and striae.

Face, palpi, and antennae black; vertex and shoulders white; thorax and abdomen white with pairs of black spots, the latter also with black scales except on anal segment.

Expanse of wings: 32 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

248. **Stenalcidia latimedia** spec. nov.

Forewing: white, with very fine greenish grey striations; costa greyer, with dark grey striae; inner and outer lines fine, concisely black; inner from one-sixth of costa, excurved above and below median vein, to inner margin near base; outer from two-thirds of costa, running outwards to vein 4, with a small angle on vein 6, then bluntly bent at right angles, and running inwards, forming a large sinus in submedian interspace and an outward angle on vein 1; a small dark grey cell-spot; above it a dark grey oblique median line rises from costa and is continued as a very fine lunulate reddish thread to inner margin, almost touching outer line at the sinus; marginal area suffused with flesh-coloured grey, containing a series of elongate black blotches edged and tipped with white, representing the submarginal line, and a row of large black marginal spots, not quite touching the margin; fringe pinky white.

Hindwing: with the median line thick and dark, sinuous, preceded by a cloud of fuscous and reddish or olive striae; cell-spot blackish, outside the median line; outer half of wing as in forewing, but the postmedian line followed by a rufous fuscous shade.

Underside of forewing dark cloudy grey with broad dull smoky blackish marginal border; fringe and extreme hindmargin dull grey, showing dark marginal spots. Hindwing paler, dull grey with slight submarginal apical cloud; cell-spots on both wings.

Head, thorax, and abdomen whitish, like wings; anal half of dorsum tinged with fuscous; face white with a black bar above and below; palpi externally black, the apical segment whitish.

Expanse of wings: 32 mm.

4 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1904, wet season (Ockenden).

A very distinct species, superficially recalling *Brygoptera*.

249. **Tephronia (?) novella** spec. nov.

Forewing: pale dusty grey, without markings, except traces of two oblique lines from beyond middle of inner margin towards apex; cell-spot minute; a fine black marginal line, forming dots between the veins; fringe pale.

Hindwing: paler; cell-spot distinct; traces of the lines only at hindmargin.

Underside of forewing darker; both wings dusted with grey scales.

Head, thorax, and abdomen concolorous; abdomen with a double row of blackish dorsal spots.

Expanse of wings: 26 mm.

1 ♂ from Ecuador.

The species is placed provisionally in the Old-World genus *Tephronia*.

SUBFAMILY SCOTOPTERYGINAE.

250. **Catascia haydenata** ab. **obliterata** nov.

Larger than the type form of *haydenata* Pack., and without any dark grey and fuscous shading, the ground colour being pale stone-colour with light olive-grey speckling; the lines obscure; the costal edge alone dark grey.

1 ♂ from Glenwood Springs, Colorado (Oslar), accompanied by two of the ordinary dark form.

SUBFAMILY SELIDOSEMINAE.

251. **Callipseustes strigosa** spec. nov.

Forewing: white, tinged with pale olive and thickly striated with black; basal area filled up with olive; central fascia darker olive, edged with black; inner edge from nearly one-third of costa to beyond one-third of inner margin, indented both above and below median vein; outer edge from beyond middle of costa to beyond middle of inner margin, forming an acute outward tooth on vein 6 and a blunter one on vein 4, then lunulate; a smaller dark cell-spot in the fascia; the outer edge is followed, as the inner is preceded, by a white line; submarginal line obscure, forming some white separate spots below costa, two black spots above and below vein 4, and a broad pale olive band to inner margin, preceded by a sinuous brownish olive cloud; fringe olive.

Hindwing: whitish, tinged with olive and striated with darker, a dark grey line just beyond middle, slightly waved, and an indistinct submarginal shade.

Underside whitish, densely striated with olive and fuscous; outer line in both wings marked by dark dots on veins.

Head and thorax pale olive ochreous; abdomen greyer.

Expanse of wings: 24 mm.

3 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

252. **Callipseustes subsignata** spec. nov.

Forewing: olive, with a few dark striations; the markings brownish olive; costa with fine dark streaks; a broad central fascia, the inner edge from one-fourth of costa to beyond one-third of inner margin, indented in cell, the outer from beyond middle of costa to two-thirds of inner margin, lunulate between the veins and forming a projecting tooth on vein 4, filled up with brownish; darker along the edges and paler in middle, containing an obscure linear black cell-spot; the basal area and a band beyond the fascia of the olive ground colour; submarginal line pale olive, irregular and interrupted above, forming an outward lunule on vein 3, then broad and vertical to just before anal angle, the olive shades on each side either striated or blotched with blackish; a distinct black blotch between veins 3 and 4 running out into the fringe, which is olive irregularly spotted with black.

Hindwing: paler and greyer; a postmedian straight crenulated line, paler edged externally; a dark cell-spot; fringe shining olive-grey.

Underside greyish olive, much striated; outer lines in both wings marked by black spots on veins; outer edge of central fascia of forewing marked by an ochreous yellow spot beyond cell, sometimes continued to inner margin.

Head, thorax, and abdomen olive.

Expanse of wings: 28 mm.

2 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

253. **Ischnopteris abnormipalpis** spec. nov.

Forewing: ochreous white, in some examples hardly showing at all, in others only along the course of the three lines and beyond the middle of inner margin; first line oblique from about one-sixth of costa to one-third of inner margin, shortly angled on subcostal vein and submedian fold; second line

from beyond middle of costa to beyond middle of inner margin, nearly vertical, or slightly outbent at middle, in the single ♀ distinctly angled on vein 4; submarginal line irregularly waved, angled inwards below costa and interrupted between veins 3 and 4; central area olive-brown; basal area the same, but generally more mixed with paler scales, the subcostal, median and submedian veins sometimes showing pale across them; submarginal line preceded by a dark irregular shade, interrupted between 3 and 4, and of varying intensity, generally forming a dark blotch on costa and at inner margin; in the two *male* examples the white is fringed with yellowish ochreous thickly speckled and striated with fuscous; in the ♀ the outer area of central fascia and the streak interrupting the submarginal line between veins 3 and 4 is dull reddish; in all cases the upper half of marginal area is darker than the lower; a series of black marginal triangles between the veins; fringe dark green or fuscous, with slender dashes of paler, varying in colour according to the tint of the ground colour; cell-spot black, indistinct.

Hindwing: fuscous cinereous, with a paler curved submarginal band preceded by a dark curved line, the darker hindmargin with a pale marginal blotch between veins 2 and 4; fringe in the ♀ rufous-tinged, in the two ♂♂ yellowish ochreous.

Underside duller, but with all the dark and pale markings indicated.

Head, thorax, and base of abdomen dark olive fuscous, rest of abdomen cinereous, the tufts darker; abdomen beneath and legs cinereous, the tarsi spotted dark and light.

Expanse of wings: 30 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

In character of markings, shape of wings and body, and all points of structure except the palpi, this species is a true *Ischnopteris*; the palpi, however, have the terminal segment of unusual length and slenderness, and agree in this particular with the genus *Mimoprora* hereafter described.

254. **Ischnopteris albiguttata** spec. nov.

♂. *Forewing:* moss-green and pinkish grey, mixed with fuscous and thickly black-speckled, the veins rather paler; the inner and double median lines very obscure, disposed and shaped as in *chloroclystata* Guen., of which it may be a local form. Beyond the outer arm of the median line, which bounds it inwardly, a large white blotch reaches from costa, where it is narrower, to the median vein; on its outer edge lies the black cell-mark, the whitish marked submarginal line is preceded on costa by a diffuse whitish patch; the margin of the wing before the fringe is very pale green and pinkish grey, in one instance mixed with whitish scales.

Hindwing and underside of both wings exactly as in *chloroclystata* Guen.

Expanse of wings: 52 mm.

2 ♂♂ from Santo Domingo, Carabaya, Peru, 6000 ft., November 1901, wet season (Ockenden).

255. **Ischnopteris fidelis** spec. nov.

The description of *I. abnormipalpis*, given above, applies almost exactly to this species also; the points of difference are the following: the ground colour

is pure white with a bluish tint; the outer half of forewing is tinged with olive-green instead of ochreous, this tint filling up the space between veins 3 and 4 and interrupting the submarginal line; the dark internal edging of the submarginal line on inner margin is more pronounced, and is preceded by a pure white blotch; the inner line, though of the same shape as in *abnormipalpis*, is lost in the dark olive-fuscous suffusion which extends from base to outer line. The hindwing is much darker, with the paler markings hardly perceptible, and the fringe is also dark. Except for the short depressed terminal joint of the palpi, which is that of a true *Ischnopteris*, there is very little to distinguish this species from *I. abnormipalpis*.

256. Ischnopteris fulminea.

Chloroclysta fulminea Dogn., *Ann. S. E. Belg.* xlv. p. 310. ♀ (1901).

After describing this insect from 2 ♀♀, Dognin goes on to say that it has a great resemblance to *Chloroclysta fulgurata* Warr. ♂, and that an example of this last is in the Berlin Museum (Maassen Collection) marked *Syrtodes phaegopterata*. The insect marked *Ischnopteris fulgurata* in the British Museum Collection has never been described, nor, as far as I know, has the example marked *phaegopterata* in the Berlin Museum.

Among a large collection of Geometrids from Peru, lately received, is a pair from the same locality and with the same date, of which the ♀ agrees with the description of *fulminea* by Dognin, while the ♂ is evidently the same as those named *fulgurata* and *phaegopterata*, but not described. The difference in markings notwithstanding, I must consider them to belong to the same species, which will stand as *Ischnopteris fulminea* Dogn.

A detailed description of the ♂ is here appended for comparison.

Forewing: olive-green, striated with blackish; the costa pinkish with dark striations; the median vein and its branches pale green finely edged with cream-colour, the median vein at base, and a streak on inner margin before middle bright pink; a black dash beneath the median at base, edged with pale beneath; from costa at one-sixth an oblique cream-coloured line, running along median vein above and joining on the discocellular a similar line from middle of costa, the projecting pointed continuation of the two containing a velvety black narrow dash; an oblique cream-coloured line from costa just before apex emits a short line basewards above vein 6, and is slightly dentate externally; below the median vein it is continued to inner margin, where it is semicircularly curved round basewards, meeting the first costal line at a sharp angle on the median; from the median to inner margin it is edged externally first by a moss-green line and then by a peach-blossom-coloured one; on each side of the median vein in the marginal field is a broad cream-coloured streak, the upper straight and abbreviated, the lower curving into the tooth at vein 3; marginal lunules velvety black, preceded above middle by cream-coloured lunules edged with pinky scales, and below middle by peach-blossom-coloured lunules, this tint also being mixed with the green towards anal angle and forming a pale line across the lower half of the marginal field; fringe olive-green, paler at base, with cream-coloured dashes beyond the principal veins.

Hindwing: olive-grey at base, with a dark green curved postmedian line, beyond which the wing becomes pink-tinged with green speckles, the apex itself

being pale yellow ; fringe pale yellow from apex to vein 4, then rufous brown with some black marginal scales between veins 2 and 4 ; cell-spot olive-green.

Underside pinkish ochreous, green-tinged in places ; forewing speckled along costa and towards hindmargin, with a dusky central transverse bar, and a large pale ochreous patch. Hindwing thickly black-speckled, these speckles forming two indistinct curved shades beyond the middle ; apex ochreous.

Palpi ochreous, greenish externally ; face ochreous, with a green middle line ; vertex ochreous with a dark spot ; shoulders dark green, internally ochreous ; patagia dark and light green, with some white-tipped lateral tufts ; thorax with reddish-grey tufts ; abdomen reddish grey with the tufts greenish ; anal tufts bright ochreous ; legs pinkish ochreous mottled with dark green.

Expanse of wings : 56 mm.

Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

This ♂ is in perfect condition ; the ♀ taken at the same time with it is much wasted.

257. **Ischnopteris oppositata** spec. nov.

Forewing : a mixture of dull moss-green and purplish, speckled with darker, the markings darker, blackish purple or green ; first line oblique from about one-eighth of costa to nearly one-third of inner margin, pale green on an ochreous ground, marked with pink on the median vein, dentate outwards on the veins and submedian fold ; outer line pale pink and green, from three-fifths of costa to three-fourths of inner margin, irregularly waved, slightly oblique outwards above, bulged in middle, and insinuate on submedian fold ; the central space, like the basal, dark, crossed by numerous blackish striae and darkest towards edges ; discal spot elongated, touching the outer line, black ; the median vein with its three branches pink ; in the marginal area a black subquadrate costal blotch, edged with pale green, reaching vein 6 ; on the inner margin an elongated black blotch, similarly edged, nearly reaching vein 4 ; a smaller black blotch between the two ; a series of black marginal lunules ; fringe greenish fuscous with a pale line at base.

Hindwing : dirty whitish, greyer towards hindmargin ; the cell-mark, an irregularly dentate-crenulate postmedian line, and a broad cloudy submarginal band dark grey ; dark marginal lunules before the fringe which is dull pink, like the ends of the veins.

Underside ochreous stained with reddish and coarsely mottled with greenish fuscous ; forewing with costa reddish ; basal half of wing washed with dull greenish ; with a dark oblique middle bar and diffuse submarginal cloud. Hindwing much brighter ; cell-spots and marginal lunules on both wings ; hindwing with slight submarginal shade ; all the veins reddish.

Head dull reddish and fuscous ; thorax and patagia blackish green ; abdomen cinereous, the dorsal tufts reddish ; legs reddish, thickly mottled with greenish fuscous.

Expanse of wings : 52 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

In the forewing vein 10 is not stalked with 7, 8, 9, but rises just before them, anastomosing at a point with 11, and again at a point with 8, 9.

258. **Oenoptila costata** spec. nov.

Forewing: dark ferruginous, with a few black speckles; costa paler, more yellowish, with dark striae; below the subcostal vein a silvery white streak runs from base to apex, emitting from its lower edge a sharp white point along veins 6 and 7; the ferruginous basal area forms a triangle edged outwardly by a straight oblique line from three-fourths of costa to three-fifths of inner margin, dark above the subcostal streak, whitish below it; followed by a pale lilacine space edged outwardly by a fine black white-edged sinuous line, forming rounded teeth between the veins; this line is succeeded above the median vein by a bright ferruginous long oval space, edged externally with a dark cloud, and with a small yellow dot below vein 7; marginal space a mixture of ferruginous and lilacine; fringe ferruginous; there are traces of a cloudy dark basal line, marked by pale dots on the veins.

Hindwing: basal half deep ferruginous, outer half towards apex brighter and paler, towards anal angle greyer and striated with black; a straight median whitish line, followed by an obscure lilacine space edged above with whitish; submarginal line marked by small dark blotches between the veins towards apex and anal angle.

Underside much paler, dull pinkish ochreous with grey mottlings; the markings of the upperside showing through.

Head, apical half of patagia, metathorax, and basal half of abdomen deep ferruginous; shoulders and basal half of patagia pale yellow; prothorax whitish; rest of abdomen grey.

Expanse of wings: 40 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

259. **Oenoptila filata** spec. nov.

Forewing: pale snuff-colour, tinged and striated with olive; the lines very obscure; first curved, near base, marked only by pale spots on veins, faintly mixed with red; outer line from inner margin just beyond middle, where only it is distinct, fine and blood-red, forming a curve outwards from vein 1 to 2, marked with red dots on veins followed by pale ones; an indistinct submarginal olive-grey shade; a small dark cell-spot; fringe concolorous.

Hindwing: with the thin red line waved and median, just beyond the small cell-spot.

Underside pale lilac ochreous; forewing with a diffuse olive-fuscous submarginal cloud mixed with ferruginous, from costa to below middle, the apex whitish; hindwing with the cloud very faint; both wings with distinct dark brown cell-spot.

Head, thorax, and dorsum snuff-colour; shoulders bright pale yellow, tipped with orange red; anal tuft of abdomen pale ochreous.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

In forewing veins 7, 8, 9 are stalked from the bend in subcostal; 10 and 11 coincident anastomose with 12 before separating.

260. **Oenoptila leprosata** spec. nov.

Forewing: brick-red covered with transverse dark striae; the costal edge blackish; lines marked by blackish, white-tipped dashes on veins; the first curved,

near base, accompanied by a broad dark red shade; the second near hindmargin, sinuous and parallel to margin in middle, the spot on vein 2 displaced basewards, above vein 6 forked and thickened, marked by pale scales; a large dark red cell-spot; fringe brick-red; at the end of each vein a few whitish scales.

Hindwing: darker and without any basal line, otherwise like forewing; the fringe of inner margin ochreous.

Underside ochraceous, marked with blackish striae, along hindmargin brownish red; costa of forewing with dark striae, thickened towards base; inner margin whitish; inner line thick; outer line marked as above; a whitish grey apical blotch; cell-spot large, brown; fringe dark brown with whitish scales along base; hindwing like forewing, the whitish scales on margin more developed.

Head, thorax, and abdomen above brick-red; abdomen beneath and anal tuft ochreous.

In the ♀ the spots on vein 1 in both lines and those forming the subapical fork are enlarged into blotches of grey scales, and the costal edge remains red; the hindmargin of forewing is faintly elbowed at vein 4 and concave above, the apex appearing subfalcate, while in the ♂ the hindmargin is simply oblique, hardly curved, the apex rounded.

Expanse of wings: 32 mm.

1 ♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

Neuration of forewings the same as in *O. filata*.

261. **Oenoptila prunicolor** spec. nov.

Forewing: rich plum-colour, towards end of cell fiery red; a broad grey costal streak from base to apex, its lower edge more leaden grey, the costal edge streaked with black, and with some ferruginous marks; at three-fourths of the wing, from vein 7 to vein 4, is an ear-shaped yellow blotch, marked with fiery orange scales, edged inwardly by a sinuous snow-white line, along which the blotch is marked with deep ferruginous: it is followed below vein 7 by a largish yellow spot marked with fiery orange; anal angle tinged with fulvous yellow; fringe plum-colour.

Hindwing: with basal area deep ferruginous; the anal area and an irregularly sinuous, outwardly white-edged, median band plum-colour; apical area and an antemedian fascia deep yellow, speckled with black and tinged with fulvous; a round dark cell-spot; along the dark median fascia are yellow spots between the veins; dark submarginal blotches between the veins above middle, that beyond cell joined to the plum-coloured anal area.

Underside dull grey and yellowish, the grey predominating in the forewing and the yellow in the hindwing, the dark markings showing through from above.

Head, metathorax, tips of patagia, and base of abdomen deep ferruginous; rest of abdomen lilac-grey; collar, shoulders, base of patagia, and front of thorax grey.

Expanse of wings: 54 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

A remarkably handsome insect; notwithstanding its striking superficial difference, the points of resemblance are so great that I shall not be surprised

if it proves to be the other sex of *Oe. costata* described above. On the other hand the neuration differs much. In the ♂ *costata* the subcostal vein is abruptly bent inwards before end, veins 10, 7, 8, 9, are stalked from the bend, rising in the order named, 10 anastomoses with 11 and again with 8, 9, the costal portions of 11, 10, 9, curve off abruptly at origin; the discocellular is slightly oblique inwards.

In the ♀ *prunicolor* veins 7, 10, 8, 9, are stalked together from the bend in subcostal, but rise in this different order, all running oblique and straight, and 10 does not anastomose at all.

262. **Petelia anagogaria** spec. nov.

Forewing: reddish brown, with obscurely marked darker striae; the costa dark fuscous; the lines obscure, slightly darker; first nearly straight, from one-fourth of costa to one-third of inner margin, marked by darker vein-spots tipped towards the base with grey; median shade somewhat curved outwards, from middle of costa to quite two-thirds of inner margin; outer line from three-fourths of costa, also outcurved and towards middle approaching hindmargin, reaching inner margin close beyond median shade, marked by black spots outwardly tipped with grey; fringe concolorous; cell-spot black, obscured by the median shade.

Hindwing: similar, but without basal line.

Underside paler, dull brick-red, the darker striae restricted to the costal and hindmargins.

Head, thorax, and abdomen dull reddish brown; underside of abdomen and legs pale cinereous.

Expanse of wings: 38 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

Agrees with *Petelia* in neuration, though somewhat unlike in facies.

263. **Petelia binigrata** spec. nov.

Forewing: reddish wood-brown, finely striated with darker; the lines very fine, thread-like, paler, the inner edged outwardly, and the outer inwardly with darker, forming slight dots on the veins; first line from one-third of costa to one-sixth of inner margin; outer line from two-thirds of costa to four-fifths of inner margin, waved and bent outwards in the middle; a waved red-brown vertical central shade, preceding the black cell-spot; a large somewhat cruciform black blotch at apex and a small one at base; fringe concolorous; no marginal line.

Hindwing: with a black basal line; the outer pale line nearer the margin; no apical blotch.

Underside dull pinkish ochreous, sparsely speckled, chiefly along hindmargin; a small black blotch at costa before apex of forewing; cell-spots black.

Head, thorax, and basal segment of abdomen black; collar and abdomen like wings.

Expanse of wings: 30 mm.

1 ♂, 5 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The single ♂ is without the rich red tint of the ♀♀.

264. **Petelia purpurea** spec. nov.

Forewing: pinkish ochreous, towards costa and hindmargin tinged with dull fulvous; basal and marginal areas deep plum-colour, formed of coalescent striae; lines undefined; first near base, indicated by a fulvous spot on costa and dark spots on veins; a thick shade curving obliquely inwards before the middle; in the paler central area is a black cell-spot, followed by an outer line marked by black spots on the veins, outwardly bent at veins 3 and 4, before which bend the ground colour is olive-brown; fringe plum-colour.

Hindwing: with the basal area narrowly plum-coloured, the outer margin fulvous-tinged, with plum-coloured striae only at apex, and a few towards anal angle; fringe fulvous.

Underside duller; both wings with diffuse plum-coloured marginal clouds.

Head, thorax, and dorsum plum-coloured; rest of abdomen and anal segment above ochreous.

Expanse of wings: 30 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Prostoma gen. nov.

Forewing: costa faintly curved; hindmargin irregularly excised from vein 7 to 4, the sinus from 4 to 6 deeper; vertical from apex to 7 and forming a blunt projection between 4 and 3, then oblique and concave to anal angle, which is well marked.

Hindwing: with hindmargin deeply crenulate, especially beyond cell.

Forehead with a strong pointed peak of hairs below; palpi porrect, decumbent, twice as long as head, flattened, rough-haired above and below, the terminal segment acute; antennae simple (♀); tongue and frenulum present, but weak.

Neuration: forewing, cell quite half of wing; discocellular vertical; first median nervule at about one-half, second close before third; radials normal; 7, 8, 9, stalked from some distance before end of cell; 10, 11 free; hindwing with costal and subcostal approximated for half cell, 7 just before end; no radial; medians as in forewing; all the veins slender and weak.

Type: *Prostoma fragilis* spec. nov.

265. **Prostoma fragilis** spec. nov.

Forewing: white, thickly striated throughout with fuscous, except along the course of outer line, where the white ground is slightly more conspicuous; the lines dark; first at one-third, forming a curve above and below the median; outer line from two-thirds of costa to four-fifths of inner margin, concave outwards and oblique to vein 6, there angled, outcurved and crenulate to vein 2, forming a sinus inwards to vein 1 and there dentate outwards; a cloudy darker fuscous submarginal shade, forming a blotch below vein 6; cell-spot black, distinct; marginal line blackish, interrupted at veins; fringe fuscous grey, with a paler line at base.

Hindwing: whiter, without basal line.

Underside similar to upper, the basal half of both wings darker; the blotch in submarginal line of forewing below vein 6 conspicuously dark.

Head, thorax, and abdomen pale grey, with fuscous speckling.

Expanse of wings : 27 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Genus **Syrtodes** Guen., *Phal.* ii. p. 451.

Guenée, when introducing the genus *Syrtodes*, divided it into three groups, the first of which, containing his species *cythereata* only, he suggested would ultimately have to form a separate genus. The species must either be rare or overlooked; it is not represented in the British Museum collection, nor, as far as I know, is there a specimen in the Tring Museum. A single ♂ in perfect condition from Mons. Dognin's collection, which I have lately examined, proves that Guenée was right. As the species included in his second and third groups all belong to the genus *Ischnopteris* of Hübner, his own name *Syrtodes* may be retained for the first species thereunder mentioned; but his description, made in the main from the insects of the other groups, requires rewriting.

Forewing : elongate ; costa nearly straight, slightly curved at base and apex ; apex rectangular; hindmargin curved below, smooth, not crenulate.

Hindwing : narrow, with hindmargin curved, and both angles rounded.

Forehead protuberant ; palpi quite short, not reaching beyond face, rough-haired beneath, the third segment hidden ; antennae thick, lamellate ; tongue and frenulum present ; abdomen with very small dorsal tufts ; hindtibiae not thickened, with four spurs ; legs long and slender.

Forewing with fovea covered by broad scales.

Neuration : forewing, cell more than half the length of wing ; discocellular vertical, very weak ; first median nervule at two-thirds, second well before third ; lower radial stalked with upper from top end of cell; 10, 7, 8, 9, stalked from two-thirds ; 11 free, but approximated to 12 ; hindwing, costal and subcostal approximated for half of cell ; 7 well before end ; no radial.

The uncrenulated hindmargin of wings, protuberant forehead, and the fovea of forewing will separate it at once from *Ischnopteris*, while the abnormal stalking of veins 5 and 6 of forewing distinguishes it from all other genera of the subfamily.

266. **Thysanopyga fulvifascia** spec. nov.

Forewing : tawny grey, thickly striated with fuscous ; lines indistinct ; one near base wavy ; a submarginal shade parallel to hindmargin formed of aggregated striations, preceded by a broad tawny band, which is distinct only above the middle ; a dark blotch in end of cell ; a tawny blotch at apex ; fringe fuscous, with a pale basal line beyond a blackish marginal line ; traces of a minute pale cell-spot.

Hindwing : wholly tawny, striated thickly in basal and marginal areas ; the broad tawny band complete ; cell-spot small, whitish.

Underside cream-white ; both wings with broad dark fuscous border.

Head and shoulders brownish grey ; patagia apparently pale grey ; abdomen wanting ; antennae black, with basal joint and shaft whitish.

Expanse of wings : 28 mm.

1 ♂ from Bulim, Ecuador, December 1900—February 1901, 160 ft. (Flemming & Miketta).

The neuration of forewing is abnormal; 11 is stalked with 7, 10, 8, 9, the stalk rising far back, 11 anastomoses with 12, and 10 does not separate till near costa. Is it a form of *oroanda* Druce?

267. **Thysanopyga suffecta** spec. nov.

Forewing: brownish ochreous, wholly suffused and varied with close dark fuscous striae, the two lines dull flesh-colour: first straight and vertical, close to base; the outer from just before anal angle, also vertical and straight till near costa, where it is slightly curved outwards and scarcely attains the costa; the fuscous tint is rather deeper beyond the inner and before the outer line; cell-spot black; fringe concolorous; a few whitish scales before apex, forming a small blotch between veins 5 and 6.

Hindwing: with small white cell-spot beyond a cloudy dark spot, which appears to form part of an inner line; a diffuse dull flesh-coloured curved band towards hindmargin, broader towards costa.

Underside duller, greyish fuscous, striated with darker, with a slight dark submarginal cloud.

Head, thorax, and abdomen concolorous with wings.

Expanse of wings: 35 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

Nearest to *T. ochrilinea* Warr. from Jamaica, described as a possible aberration of *pygaria* Guen., but which I now recognise as being quite distinct. In that species the costa of forewing is broadly flesh-colour.

Subfamily FIDONIINAE.

268. **Cabira lignicolor** spec. nov.

Forewing: yellowish ochreous, thickly covered with dull wood-brown striations, which coalescing suffuse nearly the whole wing, leaving only the costal area and an irregular patch above inner margin beyond outer line of the paler ground colour; the lines obscure, marked by dark white-tipped spots on the veins; first curved, at one-fourth; second from costa shortly before apex to just beyond middle of inner margin, twice concave outwards, from vein 7 to 4 and from 4 to 1; a black cell-spot, and small black dots at ends of the veins; fringe concolorous.

Hindwing: with the base and hindmargin thickly suffused with brown, the central field paler, with thick brown striations; the rest as in forewing.

Underside greyish ochreous, darker in forewing.

Head and palpi externally brown; shoulders pale ochreous, like the costal streak; thorax and abdomen above brown.

In the ♀ the dark suffusion is less and the markings plainer: a curved brown shade accompanies the inner line from the subcostal vein and a broad brown shade precedes the outer line, the space between them being ochreous tinged with fulvous and striated with dark; beyond the outer line on inner margin the pale ground colour forms a large unspeckled blotch below median vein, becoming fulvous-tinged towards hindmargin and thickly striated with brown. In the hindwing also the central yellowish area is more developed. Underneath the outer line of forewing is well defined, limiting a darker space within it.

Expanse of wings: ♂, 28 mm.; ♀, 32 mm.

A pair from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

In both wings the hindmargin is faintly elbowed at vein 4.

Spilocraspeda umbrilinea Schaus, described from a ♀ only, must be allied to this insect.

Subfamily SEMIOTHISINAE.

Peribolodes gen. nov.

Forewing: short and broad; costa straight, slightly indented beyond middle, abruptly and shortly depressed at apex, which is blunt; hindmargin sinuous, shortly insinuate beneath apex, then strongly gibbous; anal angle well marked; inner margin straight.

Hindwing: triangular; the three margins equal; inner margin incurved; hindmargin nearly straight.

Palpi short, porrect, rough-scaled; the terminal segment hidden; tongue and frenulum present; antennae (♀) simple, filiform (abdomen and hindlegs wanting).

Neuration: forewing, cell two-fifths of wing; discocellular vertical; first median nervule at one-half, second at five-sixths; radials normal; 7, 8, 9 stalked from before end; 10 and 11 coincident, far back, anastomosing with 12, subsequently approximating to, but not touching 8, 9; hindwing, costal shortly approximated to subcostal beyond base; 6, 7 from upper end of cell; no radial; medians as in forewing.

Type: *Peribolodes bicolorata* spec. nov.

269. Peribolodes bicolorata spec. nov.

Forewing: dark brown, along the margins purplish brown; costa with minute white dots; lines deeper brown; first obliquely curved inwards from one-third of costa to near base of inner margin; second straight from three-fourths of costa to before middle of inner margin; third from a little beyond second, nearly parallel but faintly waved; two whitish curved submarginal lines, parallel to each other below subcostal; space between second and third lines above vein 7 dotted with bluish white; a fine dark marginal line; fringe brown, more rufous towards apex.

Hindwing: with all the lines parallel to hindmargin, the outer submarginal whiter; no basal line; fringe rufous.

Underside pale chestnut brown; costa of forewing finely striated with black; the whole wing with scattered grey striations; two thick oblique transverse lines, antemedian and postmedian, the latter followed by a shade; two black submarginal blotches, one at apex, the other at anal angle; marginal line black, interrupted at the veins; fringe chestnut; hindwing with four thick dark lines and a cell-spot.

Head and thorax dark purplish brown; face and palpi dotted with chestnut; (abdomen wanting).

Expanse of wings: 19 mm.

1 ♀ from Bartica, British Guiana.

270. **Semiothisa indentata** spec. nov.

♂. *Forewing:* whitish ochreous, finely speckled with grey and fuscous; the lines black, all thickened into spots on costa; first at one-fifth, slightly curved; outer from two-thirds of costa to four-fifths of inner margin, irregularly sinuate, indented in cell, and forming two conspicuous black spots on veins 4 and 3; median shade hardly visible, but marked on costa by a black blotch; a brown shade follows outer line, broad on costa; marginal dashes brown and indistinct, black-brown and distinct before the excision; fringe concolorous, with a brown dividing line, brown in the excision; cell-spot hardly marked.

Hindwings: with antemedian and postmedian lines grey and obscure, the latter prominently indented in cell, the shade beyond it paler brown.

Underside with distinct black cell-spots; the outer shade distinctly marked, deep chestnut brown, the inner lines marked also with chestnut; marginal area of forewing yellowish-tinged, the veins yellowish; apex of forewing white.

Head, thorax, and abdomen like wings. Antennae with short fascicles of cilia.

♀ tinged with pale brown, the lines dark brown; only the two spots black. Underside washed throughout with ferruginous.

Expanse of wings: 39 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

271. **Semiothisa intensata** spec. nov.

Allied to *S. cardinea* Druce, but very much darker, the whole forewing being brown-black; in markings of the forewing it differs in three points; the basal line is farther from the base, and consequently closely approaches the middle line on inner margin; the outer dentate line, instead of running obliquely outwards to vein 6 and there forming an acute angle, is deflected at vein 7 and forms a quite blunt angle at 6; lastly the paler marginal space is much narrower beyond the submarginal line, which is simply curved throughout, not angled in the middle. In the hindwing the basal third is as dark as the forewing, the rest of the wing being dull brown.

Underside very deep yellow in forewing: all the markings and striae brown-black and strongly expressed.

Expanse of wings: 32 mm.

1 ♂ from Marcapata, E. Peru (4500 ft.).

272. **Semiothisa nigricomma** spec. nov.

Forewing: white, semi-transparent, thickly sprinkled with grey striae; the base and costal area grey-tinged; the lines grey, thick, darker at costa; first at one-fifth, angled on subcostal vein, then straight; second just before middle, outcurved round the thick vertical cell-spot; outer line at three-fourths, parallel to hindmargin, slightly bent outwards at vein 6, and inwards on submedian vein, rising from a black comma-shaped costal blotch; marginal area dark grey, the submarginal line scarcely traceable; fringe grey, whitish along base; costal edge pale, with fine dark striae.

Hindwing: with basal two-thirds whitish; no basal line; cell-spot large and distinct; the rest as in forewing.

Underside like upper, but whiter, less grey; costa of forewing and veins of both wings yellow-tinged.

Head, thorax, and abdomen grey.

Expanse of wings: 28 mm.

1 ♂ from Guadalajara.

Subfamily ENNOMINAE.

273. **Aeschropteryx flexilinea** spec. nov.

Forewing: dull lilac-grey, tinged faintly with olive, with fine dark striae; first line at one-third, strongly curved outwards in cell, slightly so below median, followed by a small dark cell-spot: outer line brownish olive, edged externally with pale lilac, containing whitish dashes on veins, from just beyond middle of inner margin, curving towards apex, before which it is angled and shortly retracted to costa; marginal area filled with olive striae; fringe olive, below middle tipped with lilac-grey.

Hindwing: with the line antemedian; outer half of wing suffused with olive and containing an irregular darker zigzag submarginal shade; fringe brownish olive; from apex to middle the extreme margin before fringe lilac whitish, with brown specks; the tail pointed, not bluntly squared.

Underside stone-grey, washed with olive, with faint dark speckling; cell-spots black, minute; fringe brownish olive; a slightly darker cloud at hindmargin of forewing beyond cell.

Face and vertex dark olive-grey, the latter and the antennae finely edged with whitish; shoulders, patagia, thorax, and abdomen pale lilac-grey tinged with olive, especially the shoulders and dorsum; hindtibiae pale speckled with grey; forelegs dark grey spotted with pale.

Expanse of wings: 50 mm.

1 ♂ from Huatuxco, Vera Cruz.

274. **Aeschropteryx olivata** spec. nov.

Like *Ae. incaudata* Gueu. in the contour of hindwing, but smaller and darker, more olive-tinged, especially in the marginal areas beyond the outer lines; the costa of forewing is nearly straight throughout instead of being arched; its hindmargin more bowed; the shoulders and patagia are darker, olive-grey.

Expanse of wings: 48 mm.

The insect I identify as *incaudata* expands 56—60 mm.

1 ♂ from Huatuxco, Vera Cruz.

275. **Aeschropteryx tetragonata** ab. **parvidens** nov.

Like the type form of *tetragonata* Gueu. in general appearance, though paler, more ochreous, in ground colour: but the hindmargin of hindwing forms at vein 4 a small sharp tooth instead of a bluntly rounded tail. In forewing the retracted portion of the oblique outer line is very slightly marked, shorter than in the type form, reaching costa nearer apex, and therefore the angle between the two portions is more obtuse. In both wings the oblique line reaches the inner margin farther from the base than in *tetragonata*.

2 ♂♂ from Sapucay, Villa Rica, Paraguay, September 1901 (Foster).

Received along with 2 ♂♂ of the type form.

276. **Anisoperas adulta** spec. nov.

Forewing: deep purplish grey, with darker striae mixed with pale grey scales; the lines deeper; first from one-third of costa to one-third of inner margin, faintly ontcurved; outer line from beyond three-fourths of costa to quite two-thirds of inner margin, bisinnate, bluntly projecting at veins 7 and 4, incurved between; an undefined median shade near before outer line; a zigzag submarginal line, sometimes obscured; cell-spot black; fringe concolorous.

Hindwing: without basal line; the postmedian line dentate on veins, and there marked with pale dashes.

Underside paler, duller grey; cell-spots and outer line marked in both wings, the line not corresponding with that of the upperside.

Head, thorax, and abdomen concolorous with wings.

Expanse of wings: 48 mm.

1 ♀ from Colombia.

277. **Anisoperas? aurantiaca** spec. nov.

Forewing: dull yellowish ochreous, suffused and freckled with ferruginous grey; costal area duller, olive-ochreous with short dark striae; basal line diffuse, outcurved below costa, the basal area more or less filled up with darker; on costa before apex a semi-oval pale blotch, edged with whitish and then with fuscous scales; from it start two lines, the inner ferruginous, lunulate, oblique to beyond middle of inner margin closely followed by a belt of olive-grey scales; the other line is submarginal, diffuse and irregularly waved to anal angle; fringe concolorous, with two fine grey lines; cell-spot black, followed by an indistinct ferruginous median shade, often very nearly obsolete.

Hindwing: the same, but without first line.

Underside duller, with the markings darker; apex of forewing pale grey.

Head, thorax, and abdomen like wings.

Expanse of wings: 40 mm.

4 ♀♀: 3 from Salidero, 1 from Bulim, N.W. Ecuador, January and February 1901 (Flemming & Miketta).

I believe these to belong to *Anisoperas*; but in the absence of the ♂ their position is not certain.

278. **Anisoperas latibrunnea** spec. nov.

Forewing: dull reddish brown in the central area, more greyish brown in basal and marginal fields; first line from one-fourth of costa to one-fourth of inner margin, finely black, as finely edged internally with whitish, nearly straight; outer line from three-fourths of costa to close before anal angle on inner margin, straight but slightly waved in its upper course, fine and black, followed by a white line distinct at costa, then another black and a dull ochreous grey line; submarginal line very obscure, zigzag, plainest at costa, above anal angle touching the ochreous line; a black blotch along vein 4 from outer line to angle; cell-spot linear, black with a pale line down it. The whole surface is freckled with fuscous; the costa with dark vertical striae and pale interspaces; fringe reddish grey.

Hindwing: dark grey tinged with brown to outer line at four-fifths; this line fuscous, edged with white, crenulate above middle, straight below; marginal area paler grey, but dark at the margin itself; fringe grey; cell-spot brown.

Underside dark olive-grey, freckled with fuscous, the ground colour ochreous before the dark cell-spot; outer line marked by black spots on veins; hindwing similar.

Head and thorax brownish fuscous; abdomen cinereous.

Expanse of wings: 29 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Apicia Guen.

In *Nov. Zool.* i. p. 457 (1894) I proposed to adopt the name *Eusarca* Hüb. for the species of Guenée's genera *Apicia* and *Caberodes*; I do not now justify this step; certainly not as a substitute for *Apicia*, which seems fairly separable from *Caberodes*.

279. Apicia fractilineata.

Eusarca fractilineata Warr., *Nov. Zool.* ii. p. 141 (1895).

The species was described from a ♂ from Colombia. The ♀ I find differs from the ♂ as much as the sexes of *vibicaria* Cram. from each other The specimen now described came from Santo Domingo, Carabaya, S.E. Peru, along with three typical ♂♂, dated November 1901. Ground colour olive-green with a yellower tinge than in the ♂♂, thickly covered with dark striations; basal patch of forewings, and a broad fascia beyond outer line of both wings, dull brick-red, the outer line marked on veins with white dashes; beyond the submarginal line, which is obscure, the marginal area becomes olive-green, like the fringe.

Underside deep dull yellow, mixed in the forewing towards hindmargin with orange fulvous; markings as in the ♂. The antennae have the joints angular, laterally produced, on the inside into short spines, on the outside into pedicellate fascicles of cilia.

The shape of the wing agrees with the ♀ of *vibicaria* Cram.

Expanse of wings: 42 mm.

In many points this ♀ satisfies the description of *A. incopularia* Guen., which has been hitherto sunk as a synonym of *junctuvaria* Guen.; should it eventually prove to be identical, Guenée's name would stand; I mention it here for the purpose of drawing attention to the resemblance.

280. Apicia subfasciata ab. obscurata nov.

Forewing: clouded over with purplish grey flecked with hoary grey; no trace of the usual yellow ground colour visible except at extreme apex on costa, and in the disc between the two lines; the lines, the edge of the discal spot, and the fringe deep olive-brown.

Hindwing: with the yellow of the ground colour somewhat more visible, especially along costal area; the fringe olive-fulvous; fringe of inner margin yellow.

Underside like typical *subfasciata* Warr., but very bright yellow; the inner margin of forewing shining satiny white.

Head, thorax, and abdomen purplish grey, the shoulders and patagia densely and finely dusted with hoary grey; dorsal segments of abdomen darker, with flecks of white scales; anal segments above and the whole underneath and sides bright yellow.

1 ♂ from Huatuxco, Vera Cruz.

A remarkable extreme development of the aberration *maculavia* Warr.

Apiciopsis gen. nov.

Forewing: elongate, narrow; costa straight, faintly curved at base and apex; apex produced; hindmargin strongly angled at vein 4, the margin above the angle slightly concave, below it straight and oblique.

Hindwing: with apex well rounded; anal angle bluntly rectangular, the margin from it to vein 4 straight.

Abdomen of ♂ long, with long anal tufts; antennae thick, lamellate, subserrate; palpi porrect, the second segment large, heavily scaled, the third smooth, decumbent, short; forehead protuberant; tongue and frenulum present; coxae of all the legs (apparently) tufted; hindtibia with four spurs.

Neuration: forewing, cell three-fifths of wing; discocellular vertical, concave; first median nervule just beyond middle, second at seven-eighths; radials normal; 7, 8 stalked from the bend in subcostal, 9 and the stalk of 10, 11 each some distance before; 10 and 11 coincidently anastomosing with 12, and 9 anastomosing with 10, 11, subsequently again with 8: hindwing, costal and subcostal approximating for half of cell; 7 from before angle.

In the forewing of ♂ the submedian vein is swollen at base, then bent down; above the submedian fold the wing membrane is contorted and depressed, forming an irregular fovea.

Type: *Apiciopsis obliquaria* spec. nov.

281. **Apiciopsis angusta** spec. nov.

Forewing: pale straw-colour, with rather coarse brownish freckles; costa yellower, with finer dark dusting; first line very fine, oblique outwards from one-third of inner margin towards the black cell-spot; outer line pale brown, thick, darker-edged outwardly, and followed by a fine white line from middle of inner margin into apex, there preceded by a dark spot; a faint brownish submarginal waved shade; extreme margin brownish-tinged; fringe worn.

Hindwing: with cell-spot, and beyond it a sinuous pale brown line parallel to hindmargin, and a brown patch at anal angle.

Underside paler, with the lines faint.

Head, thorax, and abdomen pale ochreous; vertex whiter.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Forewing narrow and elongate; the angle at vein 4 prominent and the apex acute, even in the ♂. A much more fragile-looking insect than the type species.

282. **Apiciopsis obliquaria** spec. nov.

Forewing: pale ochreous, thinly dark-speckled; inner line, obscurely marked, from one-third of inner margin straight and oblique to middle of cell just before discal spot, which is black and distinct; outer line very distinct, dark olive-brown, from apex to three-fifths of inner margin, closely followed by two grey lunulate-dentate lines, of which the inner one is marked by black vein-dots; an indistinct submarginal slightly waved grey cloud; fringe narrow, concolorous, with a dark dot at vein 4.

Hindwing: with outer and submarginal lines slightly sinuous; the apex clouded with fuscous grey; fringe with slight grey spots beyond veins.

Underside browner ochreous; the outer lines thicker.

Head, thorax, and abdomen like wings; palpi externally and upper half of face brownish.

Expanse of wings: 40 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons), *type*; 1 ♂ Chulumani, Bolivia, 2000 m., December, wet season (Simons). In the latter specimen, which is much worn, the outer line is thin and inconspicuous.

The insect is something like *Loxapicia parallelaria* Warr. (*Eusarca*).

283. **Asestra ustularia** spec. nov.

Forewing: dull ochraceous, speckled with blackish, deeper-tinted towards base and apex; costa dotted with black; the lines black at costa, below marked by black spots on veins; first at one-third, bent on subcostal vein, then vertical; outer at five-sixths, angled at vein 6, and more bluntly at vein 4, the black dots tipped with pale; cell-spot black; fringe concolorous.

Hindwing: dirty white, grey-speckled, and flushed with ochreous towards hindmargin; a dark cell-spot and submarginal line of dark dots.

Underside similar, but paler.

Head and thorax like forewing; abdomen paler.

Expanse of wings: 30 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

Very much like *A. albitumida* Warr. from Loja, but without the white terminal blotches of that species.

284. **Azelina nigra** spec. nov.

Forewing: rufous grey striated with darker grey or brownish; this ground colour, however, appears only in the outer third of the wing, being entirely suffused elsewhere with dull dark leaden purple, which becomes velvety purple-black within the edges of the central fascia; first line from one-fourth of costa to one-third of inner margin, forming three somewhat angled projections, of which the middle one below the median vein is more acute than the other two; the line is edged at costa by whitish scales, and preceded on inner margin below submedian vein by a patch of flesh-coloured scales; outer line from three-fourths of costa to three-fourths of inner margin, forming three acute small teeth below costa and three bluntly rounded projections above inner margin, with a large deep sinus between veins 2 and 5; on the costa it is followed by a distinct white spot; apical region purple-black, concisely edged inwardly by an oblique line from the white costal spot to the angle at vein 3; the paler marginal space is irregularly blackened at anal angle, and the brown-grey striae tend to form two irregular clouds; submarginal spots black and white, showing wholly white in the dark spaces; cell-spot slightly elongate, white; costa varied with slight oblique pale dashes, and the whole wing sparsely dusted with pale scales.

Hindwing: wholly dull blackish; an outer waved paler line from a little before apex to above anal angle, where it is edged outwardly with a blotch of flesh-coloured ochreous; submarginal spot below vein 7, and that at anal angle white, the rest black with white edges; fringe of both wings blackish, except on lower half of forewing.

Underside dull dirty blackish with a brown tinge; cell-spots of both wings and

costal spot of forewing whitish; an outer crenulate darker line edged with paler, followed by a white patch at anal angle of hindwing; a pale patch on hindmargin of forewing below middle.

Head, thorax, and abdomen concolorous with hindwing; anal tufts pale; legs dotted with whitish.

Expanse of wings: 48 mm.

3 ♂♂ from Chimate, Bolivia, 760 m., September 1900 (Simons).

Allied to *A. jimenezaria* Dogn. and *constrictifascia* Warr., but distinguished by the much darker coloration.

285. **Azelina ochriscripta** spec. nov.

Forewing: ashy grey; the basal area darkened with dense purplish-grey strigae; the central area suffused as well as striated with purplish grey, and along inner margin with vinous; the outer area with sparse dark striae; first line indistinct above median, below it forming two slight curves to inner margin at quite one-third; outer line oblique and reddish from costa at three-fourths to vein 6, then rounded between the veins and purplish grey to three-fourths of inner margin, followed by four or five irregular blackish spots between the veins; costal portion of central fascia occupied by an outwardly bilobed semi-oval blotch of fulvous ochreous unspotted, edged with red-brown, the lower lobe followed by a semi-hyaline white crescent on the discocellular; some black, white-tipped, submarginal dots; fringe reddish.

Hindwing: brownish grey, paler along costa; a nearly straight pale grey line at three-fourths; anal area paler grey with black speckles; submarginal spots and fringe as in the forewing.

Underside of forewing dark olive-grey above the median, pale grey below and at apex; the white crescent preceded by a dull orange streak in cell; the costal area reddish; outer line black and waved from costa to vein 4: hindwing tinged with vinous and black-speckled; cell-spot black; the line black-dotted and edged with paler.

Head, thorax, and abdomen purplish grey; legs pale ochreous.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Brachyctenistis gen. nov.

Allied to *Certima* Wlk. and more closely still to *Neodora* Warr., separated from both by the antennae of the ♂, which are armed with short stiff pectinations, gradually decreasing to the serrate apex. Palpi obliquely porrect upwards, first and second segments rough-haired, third smooth and pointed, bent forward. Hindmargin of both wings rounded and crenulate; forewing without fovea; abdomen without crests.

Type: *Brachyctenistis undilinea* spec. nov.

To this genus must be transferred the species described by me (*Nov. Zool.* vii. p. 216) as *Hasodima? incongruata*, to which the type species *undilinea* is in reality closely related.

286. **Brachyctenistis undilinea** spec. nov.

Forewing: chalk-white, thickly striated with olive-grey; the costa with dark grey striations and three black spots at the origin of the lines; first line at one-third, curved outwards on each side of the median vein, marked also by black vein-spots; outer at two-thirds, lunulate-dentate, sinuous, outcurved above middle, incurved below; submarginal line, like outer, but less defined, the teeth black-tipped on the veins, approaching outer line towards inner margin; beyond it yet another thick grey subterminal line; marginal line crenulate, black; fringe white; cell-spot olive-grey; a grey blotch between veins 2 and 3 beyond outer line.

Hindwing: white, dusted with grey striae along hind and inner margins, with the three outer grey lines indicated on inner margin before anal angle; the post-median not reaching above vein 5, the submarginal marked throughout by grey spots on veins, the subterminal an obscure shade; a round black cell-spot; fringe and marginal line as in forewing.

Underside white; costa of forewing with black striae and spots; cell-spot dark grey; an oblique blackish smear from costa beyond outer line to middle of hindmargin. Hindwing with black cell-spot and a blackish oval submarginal blotch between veins 6 and 7.

Palpi white, the second segment blackish; face white with a black bar above; vertex, shoulders, and patagia greyish white, the tips of patagia white; thorax and abdomen white, the latter grey-tinged between the segmental rings; pectus pure white; legs whitish, spotted with dark; antennae dark, with the base white.

Expanse of wings: 44 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Brachystichia gen. nov.

In shape and marking of wings like *Alpicia* Guen., but with different palpi, face, and antennae; the face below ends in a cone of scales; the palpi are much longer than in *Alpicia*, the second segment thickly scaled, the third deflexed; the antennae of the ♂ are armed with two rows of short curved pedicellate fascicles of cilia instead of being bipectinated.

The spurs of the hindtibia are short and stumpy.

Type: *B. nitida*, spec. nov.

287. **Brachystichia nitida** spec. nov.

Forewing: very pale fawn-colour, flushed with deeper, and with a few brown specklings; costal edge deep brown; cell-spot black; the two lines very faint, but marked by slight dark dots on veins; the first at one-third; the second from two-thirds of inner margin towards apex, hardly sinuous, shortly retracted to costa from vein 7 and marked with a small black-brown blotch on each side of the curve, with a small spot beyond them on costa; traces of a zigzag submarginal line; fringe rather darker but glossy like the wing.

Hindwing: with the line central, grey, not bearing spots; cell-spot small; hindmargin deeper fawn like the fringe.

Underside pearl grey, coarsely brown-speckled, the forewing suffused with

olive fulvous except along hind and inner margin; the outer and submarginal lines plain, black-brown, the apical blotches forming a small dark triangle.

Head, thorax, and abdomen like wings; outside of palpi, tip of the frontal cone, collar, and base of shoulders brown.

Expanse of wings: 38 mm.

1 ♂ from Sapucay, near Villa Rica, Paraguay, June 1901 (Foster).

288. **Caripeta interalbicans** spec. nov.

Forewing: pale yellowish ochreous, mostly overlaid with rusty salmon-colour and reddish orange; these darker tints run along the veins leaving the intervals pale; costal edge finely ochreous; irregular ochreous streaks along the two folds and inner margin, mixed with a few coarse dark scales; a central fascia somewhat darker, edged by diffuse brown lines; first line from one-third of costa, angled outwards on median vein, incurved on submedian fold, and again oblique outwards to before middle of inner margin; outer line from four-fifths of costa, oblique inwards and forming a deep sinus beyond cell, a beak outwards between veins 4 and 3, and another deep sinus on submedian fold, to four-fifths of inner margin; cell-spot dark brown below, ochreous above, followed by a dark brownish shade; the reddish horizontal marks on the veins narrow towards hindmargin and the pale intervals correspondingly wider; the fringe yellow ochreous with grey patches beyond veins; traces of a submarginal line of elongated lunules from close before apex, marked by a few olive scales, those between veins 2 and 3, and 3 and 4, slightly filled up with olive.

Hindwing: whitish ochreous at base, beyond middle flushed with orange, deeper along the veins, and wholly orange along hindmargin; a few olive scales towards base and along inner margin, and a slight cell-spot; fringe pale ochreous.

Underside whitish ochreous; costa of both wings, hindmargins, and ends of veins sandy-yellow; veins towards margin marked by pinkish grey wedge-shaped marks; the dark edges of central fascia showing through on forewing; the hindwing with a dull grey wavy postmedian line and cell-spot.

Head and thorax ochreous, the shoulders and patagia somewhat yellower; abdomen cinereous.

Expanse of wings: 44 mm.

1 ♀ from South Park, Colorado, August 1901 (Oslar).

Whether this represents a distinct species, or is only another of many variable forms of *aretaria* Wlk., must be left till many more examples are available for comparison than exist at present. None of the forms seem to be really common.

289. **Certima canisparsa** spec. nov.

Forewing: reddish testaceous, thickly striated with fuscous, these striae encroaching on the white costal edge; a brown curved shade at one-third, more or less mixed with whitish scales, and slightly darker marked on the veins; exterior line of black spots tipped with white and below the middle accompanied by a band of white scales, preceded by a straight brown oblique line parallel to hindmargin, and becoming obsolete at vein 6; fringe reddish; cell-spot black.

Hindwing: without first line.

Underside whitish, washed with pale brown, thickly black-speckled; a submarginal reddish-fuscous cloud from costa to below middle, much broader in forewing; a fine black marginal line; fringe rufous.

Face and palpi red-brown; vertex and thorax rufous; abdomen pale grey, rufous-tinged on dorsum.

Expanse of wings: 48 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Like *C. unicolor* Dogn. but more striated, less uniform in colour, the white costal edge not pure; the oblique line nearer anal angle on inner margin and median, not antemedian, on hindwing. Underside of forewing without white patch beyond cell.

290. **Certima delectans** spec. nov.

Forewing: deep yellow, with a few scattered dark scales; inner line marked only by slight red-brown dots on veins; from two-thirds of inner margin to just below apex a sinuous band of contiguous rust-red lunules slightly mixed with fuscous scales beyond cell and in submedian interval, its inner edge diffuse, its outer more defined; the teeth on the veins marked by small white dashes, which themselves reach the costa; marginal area beyond the band tinged with dull olive, deepening into fuscous brown along margin, mottled with grey and black scales; marginal line dark brown; fringe grey with thick brown middle line; cell-spot small, black.

Hindwing: with the band nearer and parallel to hindmargin, less prominent; the rest as in forewing.

Underside duller yellow, slightly speckled; both wings with fuscous grey-tinged margin beyond the outer line of dark speeks; forewing with a diffuse brown shade before the marginal one, reaching to midwing; cell-spots black.

Face and palpi brown; abdomen like wings; vertex, thorax, and patagia pale fulvous yellow.

Expanse of wings: 44 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., January 1901, wet season (Simons).

A handsome insect, the brightest-coloured of the genus.

291. **Certima nubifera** spec. nov.

Very near *C. dositheata* Guen., but without any bend in the hindmargin of forewing; the scaling finer, more glossy; the outer line nearer hindmargin, the median below middle not running straight to inner margin and touching outer line, but bent inwards parallel to it, the space between them from vein 4 to submedian fold filled up with dark. In the hindwing the median and exterior line are parallel throughout, not divergent from inner margin.

Expanse of wings: 46 mm.

2 ♂♂ from Charaplaya, Bolivia, 1200 m., June and July 1901 (Simons).

292. **Certima pallidifrons** spec. nov.

Forewing: in colour like *dositheata* Guen.; the lines also marked by black dots on veins, but these not tipped with white as in that species; the marginal area somewhat darker than median, the limiting line sinuous, from three-fourths of costa parallel to hindmargin as far as vein 3, then curving basewards and reaching inner margin before middle, the edge below the median forming a slight brownish cloud; cell-spot black; hindmargin with a slight but plain elbow at vein 4; fringe concolorous.

Hindwing: with slightly darker central shade; the black dots of outer line on a darker shade and farther from margin than in *dositheata*.

Underside paler; with cell-spots and outer line of dots; a smoky fuscous submarginal cloud on forewing reaching vein 2.

Thorax and abdomen like wings; palpi brownish; face entirely pale ochreous, almost white.

Expanse of wings: 33 mm.

1 ♂ from Salampioni, Bolivia, 800 m., August 1901, dry season (Simons).

Distinguished by its small size and white face.

293. **Cimicodes latata** Guen., *Phal.* i. p. 50. ♀

I have always been under the impression that the three forms *pallicostata*, *nigroliturata*, and *latata*, described as distinct by Guenée, belonged to one and the same species, *latata* being the ♀. But among ten specimens, all ♂♂, caught at the same time and place, three belong to the typical *pallicostata* and two to *nigroliturata*, these two forms being distinguishable from all the others by the much paler, stone-grey, underside; three more represent a form closely allied to *subapicata* Warr., but distinct from it and described below as new; the remaining two, both ♂♂, correspond to Guenée's description of *latata*. In these the forewing is very decidedly longer and narrower than in any other form, and the cell-spot of forewing is surrounded by a distinct pale ring; but the distinguishing characteristic is the position of the transverse line of the hindwing; in all other species I have seen this precedes the cell-spot; in the two specimens I identify as *latata* this line, much less distinct, as not being edged with ochreous, passes outside the cell-spot. All the examples are labelled San Ernesto, Bolivia, 1000 m., August and September 1900 (Simons).

294. **Cimicodes ruptimacula** spec. nov.

Forewing: olive grey-brown or rufous grey-brown, very thickly sprinkled with dark dots and striae; costal streak not paler than ground colour, but without any tinge of brown; the lines almost exactly as in *C. subapicata* Warr., both concave outwards and parallel to each other; the outer line is marked with pale dots on **all** the veins; the white spot on vein 7 is elongated and confluent with the white costal spot, so forming an irregular pale blotch; there is no dark shade beyond the lower half of submarginal line, but instead two blackish blotches beyond outer line on each side of vein 3, representing the large black blotch of *nigroliturata*.

Hindwing: as in *subapicata*, without any black blotches; the transverse line **preceding** the cell-spot.

Underside dull brownish; the submarginal line blackish, dentate, or marked by black dashes on veins; the outer line shown by pale dashes.

Head, thorax, and abdomen like wings; face and palpi black-brown; forelegs black-brown, varied with ochreous.

Expanse of wings: 58 mm.

3 ♂♂ from San Ernesto, Bolivia, 1000 m., August and September 1900 (Simons).

295. **Cratoptera subcitrina** spec. nov.

Forewing: cream-colour, sparsely speckled with dark scales; the costa tinged with pale yellow, the costal edge with grey-brown striations; inner line very

obscure, pale olive, from one-fourth of costa to one-fourth of inner margin, bent at right angles in the cell; outer line broadly olive from apex to before middle of inner margin, where it approaches the first line; above vein 7 the olive changes to deep red and is marked on the outside by a black spot; the costal edge immediately before the line is white beyond a small brown costal streak; a very faint angled submarginal line, the lower part from vein 4 to anal angle straight and plainer; cell-spot dull red; fringe olive-brown.

Hindwing: with the broad olive line at one-third, the submarginal angled line obscure; fringe olive-brown.

Underside pale lemon yellow, thickly speckled and striated with brown-grey; an olive-grey-brown streak along costa from base to outer line on forewing, browner close to line which is itself ferruginous; costal spot and cell-spot dark brown; costal edge white with brown streaks; fringe and submarginal line olive, brown; an outer curved fine lunulate-dentate brown line on hindwing.

Head, antennae, and collar dark brown; shoulders pale yellow, brown-tinged in front; thorax and abdomen cream-colour, the latter becoming brownish towards anal segments.

Expanse of wings: 38 mm.

2 ♂♂ from Upper River Toro, La Merced, Peru, August—September 1901, 3000 m. (Simons).

296. **Drepanodes fulvilinea** spec. nov.

♂. *Forewing:* rufous ochreous, covered with olive-brown striae, and towards hindmargin suffused with the same colour; the striae along costa mixed with orange fulvous; lines deep orange fulvous; first from one-fourth of costa to one-third of inner margin, bent at middle, inwardly edged by a pale yellow line; outer line from three-fifths of inner margin, curved towards apex, before which on vein 7 it is acutely angulated and retracted to costa, where it is blackish edged with grey; the angle is marked by a velvety black dash, and the line is followed by a pale yellow line; cell-spot small and dark; fringe bright orange fulvous with the tips pale.

Hindwing: like forewing; the line central; costal area broadly whitish.

Underside cream-colour, with a pinkish tinge; costa of forewing ochreous, with dark striae; apical area rufous grey; outer line marked by black spots on veins and a black streak at costa; hindwing dark-speckled along costa and hindmargin; fringe fulvous.

Head brown; shoulders and patagia pale pinkish ochreous; abdomen the same, but tinged with darker along dorsum; hair-pencil of hindtibia black with whitish tip.

♀. Dull violet-grey, fulvous-tinged before the outer line; lines as in the ♂; but the fringes grey and the cell-spot of forewing large; the underside dull lilac-grey; forewing with a large dark submarginal cloud; thorax and abdomen lilac-grey.

Expanse of wings: 30 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November December 1901, wet season (Ockenden).

In the ♂ the apex is bluntly produced, the hindmargin simply oblique; in the ♀ the apex is acute, and the hindmargin bulged in middle and concave below apex.

297. **Entomopepla fulgorifera** spec. nov.

Forewing: drab, speckled with black; the costa ochreous, with oblique black striae; cell-spot black, distinct; first line at one-fourth, white, lunulate, to one-third of inner margin; outer line at three-fourths, milk-white, acutely angled outwards above vein 6 and inwards on vein 5, below vein 4 marked by a dark lunulate shading, with black dashes on the veins, or with white dashes, and sometimes obsolete; submarginal line white, zigzag to vein 5, then as outer line; veins 5, 6, 7 finely white between outer and submarginal lines; fringe concolorous.

Hindwing: with dark cell-spot and traces of median and submarginal lines, in the space between which above anal angle is a large quadrate blotch of coal-black striae on a smoky-black ground.

Underside with more plentiful black striations; markings of upperside partly expressed; apex of forewing ochreous; hindwing with a whitish submarginal line.

Thorax and abdomen concolorous; face, vertex, and collar edged with milk-white; abdomen beneath, pectus, and legs white, the last spotted with dark.

Expanse of wings: 44 mm.

3 ♂♂ from San Ernesto, Bolivia, 1000 m., August, September 1900 (Simons).

Hemixera gen. nov.

Forewing: elongate; costa strongly arched at base, then straight; apex rectangular; hindmargin bluntly bent at vein 4, vertical above, oblique below.

Hindwing: narrow; inner margin short; hindmargin curved from vein 7, the apex subtruncate: in the ♀ with a small tooth at vein 4 and slight sinus above it.

Antennae lamellate, simple; palpi quite short, not reaching front of face, which is rounded; tongue and frenulum present; hindtibia with four spurs.

Forewing in the ♂ with the wing-membrane below median vein thinly scaled and stretched, the foveal bar developed, but without actual fovea.

Neuration: forewing, cell more than half as long as wing; discocellular vertical; first median nervule at five-eighths, second at eleven-twelfths; radials normal; 7, 8, 9 long-stalked; 10 free; 11 short, anastomosing and becoming coincident with 12; hindwing, costal and subcostal approximated for about half of cell; veins 7 and 3 both before angles of cell.

Type: *Hemixera orthosiodes* spec. nov.

298. **Hemixera orthosiodes** spec. nov.

Forewing: olive-yellow, with neat olive-grey striae; the costa with vinous-red striae, in the ♀ somewhat suffused with that colour; lines vinous red, slender, starting from black-red costal blotches; first at two-fifths, nearly vertical; second from two-thirds of costa, oblique outwards and acutely angled on vein 6, then oblique to two-thirds of inner margin; before apex is another black-red blotch, outwardly marked with a white spot; fringe with basal half deep crimson, marginal half white with black chequering beyond veins; cell-spot linear, olive grey.

Hindwing: yellowish white, unspeckled; some reddish striae along inner margin; a faint reddish submarginal line towards apex, starting from a red spot at three-fourths of inner margin; fringe yellow, chequered with reddish.

Underside of both wings yellow, the inner margin of forewing whitish

base of forewing streaked with orange fulvous; costa of hindwing striated with fulvous; outer lines orange fulvous; forewing with red-brown apical triangle with a white spot at middle; fringes as above; cell-spot fulvous.

Head, thorax, and abdomen yellow; face and shoulders orange-tinged; dorsal segments red-speckled; abdomen beneath yellow; pectus white; legs fuscous.

Expanse of wings: ♂, 22 mm.; ♀, 26 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

299. **Herbita aemula** spec. nov.

Forewing: dull red-brown, scantily speckled with blackish, mainly along costa and inner margin and towards base; the lines a shade darker than the ground colour: first from beyond one-fourth of costa to one-third of inner margin, bent in cell, preceded on the veins by small white spots; cell-spot black, followed by a very obscure darker median shade; outer line from two-thirds of inner margin, oblique and very faintly curved towards apex, angled on vein 7, and retracted to costa, followed by a somewhat lustrous pearly line, marked whiter on the veins and on costa forming a snow-white spot; submarginal line represented by some whitish and dark scales below costa beyond angle of outer line, hardly distinguishable below; between veins 2 and 4 a large diffusely edged black blotch beyond outer line; fringe concolorous.

Hindwing: with costa pale; the outer line of forewing continued just beyond middle; cell-spot black in a grey ring; submarginal line zigzag, very obscure, its internal margin in some lights faintly shining; fringe of inner margin pale ochreous.

Underside duller red, with the markings faintly shown.

Head, thorax, and abdomen concolorous; pectus and abdomen beneath reddish; legs mottled olive fuscous and pale.

Expanse of wings: 50 mm.

1 ♂ from Huatuxco, Vera Cruz.

Hindmargin of forewing gibbous at middle; in *Microgonia rufaria* Warr., which it mimics in a remarkable way, this margin is straight.

300. **Herbita cervina** spec. nov.

Forewing: brownish fawn; costal edge whitish, with black dots; a dull yellow diffuse patch at end of cell containing the small black cell-spot, preceded by a dark shade and followed by a broader more diffuse cloud; a grey semicircular blotch on costa before apex, white-edged inwardly, indented outwardly; the costa beyond it truncate; a very faint darker submarginal shade from it parallel to hindmargin.

Hindwing: with small black cell-spot and indistinct lunulate-dentate postmedian line.

Underside paler fawn, with small blackish speckles; a faint postmedian line on forewing; the costal spot outlined with dark; fringe darker; cell-spot black.

Face and palpi brown-black; vertex, thorax, and abdomen like wings; fillet finely whitish; legs fawn-colour; foretibiae and tarsi dark fuscous with whitish spots.

Expanse of wings : 50 mm.

1 ♂ from Huatuxco, Vera Cruz.

Smaller and darker than *H. flavidiscata* Warr. from Ecuador, the costal blotch shorter and deeper, the markings more obscure.

Himeromima gen. nov.

Forewing: with costa slightly curved ; hindmargin vertical above middle, oblique below ; toothed at veins 6 and 4, crenulate between ; inner margin convex.

Hindwing: ample ; with a tooth at vein 4, the margin above it crenulate, to anal angle almost convex.

Antennae bipectinate ; frenulum present ; hindlegs with four spurs.

Neuration : forewing, cell more than half as long as wing ; discocellular inangulated ; vein 2 at five-eighths, 3 at seven-eighths ; radials normal ; 7, 8 stalked from the bend in subcostal ; 9, 10, 11 coincident just before them, anastomosing with 12, 9 subsequently anastomosing with 8, forming a long narrow areole ; hindwing, costal and subcostal approximated for nearly half of cell ; 7 from end of cell ; discocellular strongly inangulated ; no radial ; medians as in forewing.

Type : *Himeromima aulis* Druce (*Mecoceras*).

301. **Hygrochroma flexilinea** spec. nov.

Forewing: pale lilac, dappled with darker, and with sparse black scales ; costal edge paler, with oblique lilac striae ; inner and outer lines pale green, double, the edges darker ; first curved from one-third of costa to beyond one-third of inner margin, both edges irregularly dentate ; outer line narrower, sinuous, from five-sixths of costa to two-thirds of inner margin, curved outwards below costa and again below middle, bluntly angled on the submedian fold and widening downwards ; both lines are marked with white dashes on the veins ; at the costa the first is edged outwardly and the exterior inwardly with red ; a reddish crenulated median line from costa beyond middle is curved round the dark cell-spot and then runs slightly oblique to inner margin, nearly touching the outer line ; the outer line is followed by a band of undusted pale ground colour, and this by a dentate and sinuous red line, darker marked on costa before apex ; apex pale green ; marginal area broad, filled with transverse reddish black-speckled ripples ; fringe narrow, greenish.

Hindwing: whitish in basal and costal half, lilac-tinged towards anal angle only ; with three lines diverging from the anal margin ; the first single, the second indistinctly double, greenish, with white dashes on veins, the third reddish, also marked with white on the veins and followed by a dull grey-green shade ; fringe green, with darker green spots beyond the veins.

Underside of forewing pale green, speckled with black and dull red ; the median and outer lines and a submarginal shade marked in red and green ; inner margin and lower half of outer margin whitish ; a blotch of red and black speckles between veins 2 and 3 beyond outer line. Hindwing with basal half coarsely red-speckled ; a dentate postmedian line, marked with red on the veins, and a fainter submarginal line ; cell-spot very large, round and black, bisected by the pale angulated discocellular.

Face and vertex pale greenish ochreous ; shoulders and patagia tinged with pale lilac, the abdomen whitish, all with scattered black scales ; antennae and long third segment of palpi dotted with reddish ; legs thickly marked with reddish.

Expanse of wings : 58 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

302. **Hygrochroma subusta** spec. nov.

Forewing : brownish ochreous at base, along costa, and inner margin, transversely striated with purplish brown; the lines purple-brown, double; first at one-third, thick, sharply bent in cell, then obliqne and waved to one-third of inner margin, the interval between the arms lustrous silvery; towards the base is another indistinctly double line; outer line finer, oblique outwards from two-thirds of costa, bluntly bent at vein 6, then obliquely and somewhat irregularly waved inwards to two-thirds of inner margin, with lustrous scales between, and preceded by a thick curved streak; marginal area dark olive traversed by a lustrous dentate-lunulate submarginal line; an indistinct costal triangle before apex, olive edged with ochreous; cell-spot and a broad streak beyond it olive; cell and space below it paler ochreous, the triangle at base of veins 2 and 3 semihyaline white; fringe olive-brown with dark line at base and apex.

Hindwing : paler, tinged with olive and purple only towards apex, crossed just beyond middle by a double purple line with lustrous centre, inbent just below costa; traces of a darker olive zigzag submarginal line; fringe brownish olive.

Underside much brighter; forewing pale ochreous; the lines black-brown, ferruginous-tinged; marginal area suffused with olive and purplish, with yellow patches on costa and above anal angle. Hindwing deeper ochreous with broad straight brown-black bar across middle and a fine waved submarginal line of the same colour.

Face dark brown; shoulders, patagia, and abdomen olive-grey barred with paler : anal tufts ochreous; abdomen beneath, pectus, and palpi bright ochraceous; legs ochraceous spotted with brown; third segment of palpi brown.

Expanse of wings : 48 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season, and 2 ♂♂, 1 ♀, June 1902, dry season (Ockenden).

In the ♀ the purplish brown tints become ferruginous.

303. **Ira dislocata** spec. nov.

Forewing : dusky flesh-coloured ochreous, speckled with dark green atoms; first line obscurely marked, indicated by the greenish speckles being thicker, outcurved above and below the median vein; a similarly indistinct central shade bent out beyond the dark cell-spot; outer line double, dentate-lunulate, dark green, the inner arm most clearly expressed, except at inner margin, where both are red-brown, running from two-thirds of inner margin obliquely towards apex, more strongly dentate on veins 6 and 7, and then retracted to costa; submarginal line indicated by the dark green teeth, that at apex being blackish green; costal space between the two lines ochreous and pearl-grey, but not forming a distinct blotch; marginal area greyer; fringe also darker.

Hindwing : similar in coloration; the outer line well marked, lunulate-dentate, the teeth showing pale; marginal area darker, becoming quite dark green beyond the submarginal line, the lunules of which are filled up towards anal angle with pale ochreous yellow; cell-spot dark.

Underside ochreous, with the flesh-coloured tint very pale, thickly striated

with dark green; cell-spots blackish; outer and submarginal lines cloudy, marked in the main by dark blotches on the veins; the fringes dark.

Head, thorax, and abdomen flesh-coloured ochreous; fillet snow-white; face brown; third segment of palpi blackish; eyes deep red.

Expanse of wings: 60 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Distinguished from *I. opalizans*, to which it is closely allied, by the flesh-coloured instead of greenish tint of the wings, the absence of the brown subapical costal blotch, and the ferruginous eyes.

304. **Ira funerea** spec. nov.

Forewing: dark grey, suffused with purplish grey and brown from base to outer line, the marginal area paler, with a pinkish ochreous tinge; first line very indistinct, obscured by the dark suffusion, outcurved above and below median vein; outer line double, black, slightly dentate-lunulate, obliquely curved from four-fifths of inner margin towards apex, acutely angled on vein 7 and retracted to costa; a pale grey blotch on costa above the angulation: the line is preceded and partially obscured by a broad diffuse brownish shade: costal area tinged with brown; cell-spot black, in a round slaty-grey ring; submarginal line acutely dentate, close beyond outer line, the teeth with some rufous-grey scales within them; marginal area dotted with blackish, paler towards anal angle; fringe grey, paler above middle.

Hindwing: slaty grey, with a straight blackish line at three-fourths, preceded and followed by a blackish suffusion, which extends basewards along inner margin; fringe pale grey.

Underside pale grey along hindmargins only, all the rest of both wings suffused with a smoky brownish-grey tint, and thickly blackish-speckled, the veins rufous; outer line obscurely darker; cell-spots black in a pale grey ring.

Head and thorax brownish grey; abdomen cinereous; legs ochreous dotted with black.

Expanse of wings: 60 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The apex of forewing is acute, the hindmargin bluntly angled at vein 4.

305. **Ira igniplaga** spec. nov.

Forewing: pale lilac-grey, suffused, except along hindmargin, with olive green, with deeper green freckles and blackish dots; the costa at base rufous-tinged, and in places dotted with white; the lines rufous olive; the first at one-third, curved outwards above and below the median vein, preceded by an olive shade, ending on inner margin in a fiery orange spot; outer line regularly lunulate-dentate, ending at two-thirds of inner margin in a similar spot, above vein 7 followed by a large bilobed broadly black-edged costal blotch, from the outer edge of which a zigzag olive-green submarginal line runs to anal angle, marked chiefly by the darker teeth; fringe concolorous with the marginal area pale grey; cell-spot black.

Hindwing: like forewing; the unsuffused grey marginal area narrower; outer line at two-thirds' ending on inner margin in a fiery orange spot.

Shoulders, patagia, and thorax greenish grey, like the wings; face paler; palpi fuscous; abdomen pale grey; antennae peppered black and white; legs pale grey mottled with dull green.

Underside pale grey, with coarse black speckles, slightly greenish-tinged throughout, and with a more pronounced but diffuse fasciaform greenish shade beyond outer lines; cell-spots black; basal area of hindwing with fine woolly hair, like that of the pectus and femora; fringe of the inner margin double, fine and silky, pale ochreous.

Expanse of wings: 69 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Apex of forewing sharp, costa at apex shortly truncate; hindmargin oblique; ana angle of hindwing slightly lobed, the inner margin somewhat insinuate just before it.

306. **Ira ochriplaga** spec. nov.

Forewing: ochreous in the basal and marginal areas, with the median space between the inner and outer lines sienna brown; the basal space is brownish on costa, tinged with brown at base and with brown-black striae along the veins; the inner line at one-fourth is double, curved, lunulate-dentate, the teeth pointing inwards on the veins, all more or less obscured by the dark brown of the central area; outer line plainer, also lunulate-dentate, from two-thirds of inner margin to a subapical brown costal blotch edged with whitish and indented on each edge, the space immediately before the blotch being paler, ochreous brown; the costal space also paler brown, spotted with dark and pale; submarginal line dentate, the teeth marked with black and white scales, the space along margin beyond it paler ochreous; fringe rich brown; cell-spot round, black.

Hindwing: duller, the brown area greyer and reaching from base to outer line, which is darker brown, regularly lunulate-dentate, and often obscured; cell-spot black; outer ochreous area suffused with olive-grey, the submarginal line distinct; fringe brown; fringe of inner margin ochreous.

Underside brownish ochreous, or olive grey-brown, black-speckled; cell-spots, outer, and submarginal lines marked; the outer black-clouded on inner margins, the submarginal often faint; marginal space sometimes dusted with whitish, becoming white at apex of forewing; fringe chestnut-brown.

Head and thorax dark brown; abdomen greyish ochreous; the apex of forewing is minutely produced, the hindmargin bulged, not angled in the middle.

Expanse of wings: 48 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

307. **Ira opalizans** spec. nov.

Forewing: pale stone-colour, washed with greenish, thickly speckled with dark green (in the only ♀ seen these speckles coalesce into a dark cloudy blotch along and beyond the inner line); first line red-brown, from one-third of costa, shortly oblique to middle of cell, there bent, and straight to one-third of inner margin, almost hidden by the dark blotch of speckles in ♀; in the ♂ only expressed in the costal arm; base of costa to first line red-brown in the ♀;

outer line double, dark green, in the ♂ nearly straight, in the ♀ strongly dentate-lunulate, ending on the inner margin in ferruginous wedge-shaped marks (blackish and strongly marked in the ♂); above vein 7 the inner arm is retracted and sinuous to costa, the outer similarly sinuous to close to apex, ferruginous in the ♀, blackish in the ♂, forming the outer edges of a large costal blotch with a bilobed centre; submarginal line lunulate, paler edged, the lunules filled in with dark green scales; space between outer and submarginal lines paler than the rest of the wing; fringe like the marginal area, pale olive stone-colour; cell-spot small, blackish green in ♂, rust-coloured in ♀.

Hindwing: with the outer and submarginal lines both double, strongly marked and rufous-tinted in the ♀, less developed in the ♂, the outer line ending in two rusty marks on inner margin.

Underside similar, without the blotches at apex and on inner margins; cell-spots large, black; outer line distinct, lunulate-dentate, ferruginous in ♀, dark green in the ♂, separated from submarginal line by a band of olive suffusion.

Head, thorax, and abdomen of the pale ground colour, the abdomen deeper tinted above than below and thickly black-speckled; the other parts pure, but the face and shoulders slightly darker; fillet whitish; legs ochreous, spotted with brown; tips of palpi brown.

Expanse of wings: ♂, 56 mm.; ♀, 65 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, January 1902, wet season (Ockenden).

Allied to *Ira dognini* Th. Mg.

308. **Ira somnolenta** spec. nov.

Closely related to *I. subcostata* Warr. from Ecuador, but essentially distinct; the distinguishing feature of that insect, the broad black subcostal streak of forewing is absent, or at most marked by a few dark scales; the middle line, instead of being distinct and curved, as in *subcostata*, is a mere shade, plainer at costa, below which it is curved round the blackish cell-spot; the outer oblique line is virtually obsolete, being marked only by pale vein-dots and the dark blotch on inner margin where it ends; the submarginal line is variable, distinct in one specimen, almost absent in the other; fringe concolorous.

Hindwing: with the three lines, median, postmedian, and submarginal, as in *subcostata*, the postmedian indistinct.

Underside with cell-spots only, and no submarginal shade.

Head and shoulders dark brown, like the costal edge of forewing; thorax and abdomen paler, like wings.

Expanse of wings: 60 mm.

2 ♂♂ from Popayan, Colombia.

The ground-colour is more red-brown and the size larger than in *subcostata*.

309. **Ira viridirufa** spec. nov.

Forewing: ochreous dusted with olive-fuscous scales beyond outer line; the basal three-fourths overlaid with dull olive-fuscous scales mixed with vinous, this last tint especially developed along inner margin below the submedian vein and along the costal region; the costa dull olive-green with oblique rufous strigae;

first line darker green, obscure, forming a large outward curve above and below the median vein; outer line purplish, irregularly waved and dentate, from two-thirds of inner margin towards apex, forming two more prominent teeth on veins 6 and 7, then recurved to costa and followed by a flattened oblique figure-of-8-shaped costal blotch, the lower half of which is whitish and the costal portion centred with dull green; from its outer edge a dull olive-green strongly zigzag submarginal line runs to before anal angle; the outer line is finely edged with a line of pale ochreous, followed by a diffuse greenish shade; fringe dark olive-green; cell-spot black.

Hindwing: suffused in basal two-thirds with dull olive, the inner margin vinous-tinged, the whole black-speckled; a slightly waved dark green line at two-thirds, followed by a pale line and a diffuse greenish shade; the marginal area dull pinkish ochreous, speckled and clouded with greenish; the submarginal line indistinct; fringe greenish.

Underside pale stone-colour along hindmargins, the rest of both wings suffused with smoky olive fuscous and speckled with black; cell-spots black, large; outer and submarginal lines fine, regularly dentate, dark green; fringe dark green.

Head, thorax, and pectus brown; abdomen cinereous; legs ochreous, with black dots; hindtibia enormously thickened, with a pencil of hairs; the spurs black-ringed.

Expanse of wings: 60 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Apex of forewing rectangular; hindmargin evenly curved.

This species and *funerea* described above would, perhaps, be better placed in the genus *Bonatea* Druce.

Isochromodes Warr., *Nov. Zool.* i. p. 461 (1894).
Spilocraspeda id., *l.c.* ii. p. 155 (1895).

I find that these genera cannot be kept separate; the species *extimaria* Wlk., which I made the type of *Isochromodes*, and its nearest allies are somewhat larger and differently marked from the generally smaller and less conspicuous species which I at first referred to *Spilocraspeda*; but, in the light of further experience, the distinction can no longer be maintained. The species appear to be very numerous, and in many cases closely allied and subject to considerable variation; the comparison of the underside of the wings affords the readiest means for the determination of doubtful insects, of which the uppersides are almost exactly identical.

310. **Isochromodes atristicta** spec. nov. and ab. **dissipata** nov.

♂. *Forewing*: pale ochreous, tinged sometimes in places with deeper ochreous, and dusted with blackish; two black spots on median vein, one at extreme base, the second a little beyond; the lines pale fulvous; first from one-fourth of costa to one-fifth of inner margin, somewhat outcurved above, and angled outwards on the veins, the angles marked by black spots; cell-spot large and black; outer line lunulate-dentate, thickened on the veins, angled at vein 4 so as to form two curves concave outwards, from two-thirds of inner margin to apex, preceded throughout by a parallel series of large black spots on the veins; a slightly

waved fulvous median line, bent outwards above, and below the median approximated to outer line ; large black subterminal spots on veins 1, 2, 3, and 5 ; a black streak from the angle of outer line above vein 3, and another below vein 3, the two joining an angled black mark at the margin across vein 3 ; small black marginal dots, that on vein 3 larger ; fringe ochreous.

Hindwing : without first line ; a curved blotch of black scales from inner margin between median and submarginal lines ending in the angled mark at vein 3.

Underside paler, thickly black-speckled, with an irregular diffuse blackish subterminal shade on both wings.

Head, thorax, and abdomen ochreous ; face whitish ; antennae, tips of shoulders, a large blotch on metathorax, and the anal segments of dorsum black.

Of the two ♀♀ neither agrees exactly with the ♂ ; one has all the black spots enlarged, but the two horizontal black streaks to margin of forewing and the curved black blotch on hindwing are both absent, and the dorsum is simply black-spotted on each segment ; the subterminal shade beneath is darker and larger. The other ♀, ab. *dissipata*, has no spots whatever ; the two arms of the outer line coalesce to form a thick black lunulate-edged shade, throwing out two strong black projections above and below vein 3 ; and the black curved mark on hindwing is strongly marked ; in both wings there is a black marginal line from below median vein to anal angle. Underneath the submarginal shade is slight on forewing and absent on hindwing ; the cell-spots are entirely absent on both sides.

Expanse of wings : 35 mm.

1 ♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Oekenden).

The ♂ antennae are subserrate and ciliated. Both this and the succeeding species must be allied to *Isochromodes bermeja* Dogn. (*Subulodes*).

311. **Isochromodes auxilians** spec. nov. and ab. **denotata** nov.

♂. *Forewing :* pale wood-colour, thickly freckled with dark atoms ; the costa speckled and striated with grey ; the lines nearly as in *I. atristicta*, but the inner line at one-third is thick, nearly vertical, bent only below costa ; dark grey in colour and hardly marked with darker on the veins ; the outer line is neater and marked with slighter black spots, and above vein 7 is retracted to costa instead of running into apex ; the subapical spot visible belongs apparently to the submarginal series in this species ; the black marks above and below vein 3 are present but variable in extent and intensity ; cell-spot and marginal spots black, and of ordinary size.

Hindwing : with the curved black blotch large in the type form, absent in the aberration *denotata*.

Underside with a very slight submarginal grey shade in forewing, but the outer line distinct.

The single ♀, which belongs to the aberr. *denotata*, differs in having the median line blackish instead of fulvous ; the outer line concisely black, edged with grey, forming two simple curves from inner margin to vein 4 and again to vein 7, where it is plainly retracted to costa ; the dark scales at vein 3 of forewing and anal angle of hindwing are all but absent ; underneath, on the contrary, the outer line and submarginal shade are blackish and strongly marked.

Head, thorax, and abdomen as in *atristicta*.

Expanse of wings : 28—30 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

In this species the antennae of the ♂ are flattened, and the lateral angles of each joint are produced into short tubercles bearing fascicles of cilia.

312. **Isochromodes crassa** spec. nov.

♂. *Forewing :* ochreous, washed with ochraceous, with coarse black speckles ; the lines ochraceous, diffuse, all placed as in *innotata* Warr. ; the outer line is distinctly marked by black points on the veins throughout : on the inner margin, where it approaches the median line, the two form a generally conspicuous upright brownish blotch : submarginal line marked by black spots on the veins ; marginal black dots at the vein-ends projecting into the pale ochreous fringe.

Hindwing : similar, without first line ; the lines well marked by black dots.

Underside whitish, slightly speckled : costa of forewing yellowish ; outer line always indicated to vein 4, sometimes below it, followed to vein 3 only by an irregular blackish shade which swells out into an oblong blotch between veins 3 and 4 ; the line alone indicated in hindwing.

Face ochreous, brownish at top ; palpi externally brown ; fillet whitish ochreous ; thorax and abdomen like wings ; the dorsal segments with pairs of black spots.

The ♀ is smaller, more thickly speckled, with no ochraceous tinge, and the lines obscure.

Expanse of wings : ♂, 40—45 mm. ; ♀, 40 mm.

5 ♂♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901 –January 1902, wet season (Ockenden).

313. **Isochromodes fraterna** spec. nov.

Forewing : sandy ochreous, thickly speckled with fuscous ; the lines indistinct, slightly darker, placed as in *innotata* Warr. and *Paracomistis dispar* Warr. ; the outer line from four-fifths of costa, marked as in *innotata* by distinct black vein-points on veins 4, 5, 6, 7, then incurved and joining median line on inner margin, marked by a black point on vein 1 : submarginal line marked by black spots on veins 5, 3, 2, and 1 ; black marginal spots at the vein-ends running out into the whitish fringe ; cell-spot black ; the costa thickly striated with grey.

Hindwing : like forewing, but without first line.

Underside yellowish straw-colour, dark-speckled along costa and hind-margin of both wings and near base of forewing ; forewing with a narrow concise blackish shade from four-fifths of costa to above anal angle, thickened internally to vein 4 by the blackish outer line ; hindwing with a similar narrow curved shade ; marginal lines and cell-spots black.

Face and palpi externally brownish ; vertex grey ; thorax and patagia greyish ochreous ; abdomen pale ochreous, with pairs of black spots on the dorsal segments.

In the ♀ the forewing is more densely speckled ; the lines more distinct, rufous-tinged ; and beneath the submarginal shades are twice as broad as in the ♂♂.

Expanse of wings: ♂, 36 mm.; ♀, 40 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

314. **Isochromodes grisea** spec. nov.

Forewing: pale lilac-grey, with a few dark speckles; the lines slightly darker, brownish-tinged; first from one-fourth of costa to one-third of inner margin, bent in cell and black-dotted on veins; outer line from four-fifths of costa, incurved at vein 4 and meeting median line on inner margin, marked by black vein-dots; submarginal line indicated by black spots on all the veins but vein 4; black dots beyond veins in the white fringe; cell-spot black.

Hindwing: without first line.

Underside white, slightly dark-speckled along costa and hindmargin of both wings and in basal half of forewing; an oblique diffuse fuscous cloud from four-fifths of costa of forewing to hindmargin at vein 2; costa of forewing yellowish; cell-spot black; hindwing with a very faint curved shade, plainest along margin at and below middle; marginal lines black.

Head, thorax, and abdomen like wings; the abdomen somewhat paler; the face darker, more brownish. The markings of the ♀ are more conspicuous.

Expanse of wings: 38—40 mm.

6 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Nearest to the type species *extimaria* Wlk. from Rio Janeiro, but distinct both above and below.

315. **Isochromodes latifascia** spec. nov.

Forewing: dull fawn-colour, finely speckled with dark; the lines reddish fawn, thick and diffuse; first at one-fourth, sinuous, bent outwards in cell and inwards on submedian fold; median line thick, passing over the small black cell-spot, below middle lunulate-dentate; outer line diffuse from nearly three-fourths of costa, irregularly lunulate-dentate, and angled outwards on vein 4, closely approaching median line on inner margin; from the teeth at veins 4 and 3 an oblique reddish shade to hindmargin between the ends of veins 2 and 3; submarginal line fairly distinct, dentate on veins; marginal dots not conspicuous, reddish fawn; fringe greyish ochreous.

Hindwing: paler at base, and without first line.

Underside pale stone-colour, with an ochraceous tint, and covered with grey striae and speckles; cell-spots large; a broad black submarginal fascia from beyond two-thirds of costa to anal angle, the apical areas whiter, dark-speckled, without the ochraceous tinge; lower part of outer lines indicated; marginal line and fringe spots black; fringe ochreous.

Head, thorax, and abdomen pale and dark fawn; face and palpi externally darker.

Expanse of wings: 36 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

316. **Isochromodes pallidifimbria** spec. nov.

♂. *Forewing:* wood-brown, with a grey tinge, with very fine dark speckling; the lines rufous-tinged; first from one-third of costa to one-third of inner margin, bent in cell, with darker dots on veins; median line from two-thirds of costa to middle of inner margin, slightly curved beyond the black cell-spot; outer line sinuous from three-fourths of costa to inner margin close beyond median line, slightly black-marked on veins and edged with grey: submarginal line macular, rufous: distinct black marginal spots at the vein-ends before the pale grey fringe.

Hindwing: with the cell-spot large, round and black, the space around it rufous.

Underside whitish grey, densely mottled with dark; a cloudy marginal fuscous border, leaving apex whitish; cell-spots marked on both wings, the outer line on forewing only; fringe whitish, with black spots at base.

Face and palpi internally pale ochreous: palpi externally dark fuscous except terminal segment; vertex, thorax, and abdomen grey-brown.

♀. Much paler, ochreous grey, with plainer speckling, and all the markings more distinct; the rufous tints paler.

Expanse of wings: 30 mm.

1 ♂, 4 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

317. **Isochromodes palumbata** spec. nov.

Forewing: greyish ochreous, washed with pale fulvous, and covered with coarse dark grey striations; first line indistinct, from one-fourth of costa to one-third of inner margin, ending there as a tawny angulated mark; cell-spot black, followed by an ill-defined waved fulvous median shade, beyond which the ground-colour is tinged with tawny; outer line dark brown, irregularly crenulate, from four-fifths of costa to three-fourths of inner margin, outcurved between veins 5 and 2, and marked externally by white dots on the veins; marginal area beyond line pale dove-grey, unspeckled, limited by an ill-defined pale submarginal line beyond which the space is striated and fulvous-tinged; between veins 2 and 3 lies a large dark grey cloud; marginal spots dark at end of veins; fringe pale grey.

Hindwing: to the outer line ochreous tinged with fulvous; cell-spot black, adjacent to an obscure fulvous median line; outer line and marginal area as in forewing.

Underside pale stone-grey, speckled with dark; cell-spots and outer lines marked; marginal area darker grey, with a still darker submarginal fasciaform cloud from costa, leaving the apex paler.

Head, thorax, and abdomen pale grey; face and fillet whiter.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

Antennae of ♂ subserrate, the joints angular with long fascicles of cilia. This may possibly be an abnormally coloured ♂ of *I. rufigrisea* Warr.

318. Isochromodes rufigrisea.

Spilocraspeda rufigrisea Warr., *Nov. Zool.* vii. p. 224 (1900).

The species was described from a ♀ only; the ♂ proves to be somewhat different, being uniformally dark brown, without the reddish and grey variations of the ♀. In the ♀ the space between inner and median line is grey, and between median and outer line reddish; in the ♂ both are brown, the outer rather darker: the outer brown line is more conspicuously edged with slightly lustrous grey; the marginal area is brown like the rest of the wings, the submarginal line being indicated by darker grey-edged lunules preceding it, more or less inconspicuous, but the two on veins 2 and 3 always black, followed by an outer blackish blotch, and all surrounded by grey scales. These are present on the hindwing also. Underside as in the ♀. The antennae are like those of *I. auxiliaris*, the angles of the joints being produced and bearing short tufts of cilia.

4 ♂♂ along with 3 ♀♀, quite typical, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November and December 1901, wet season (Ockenden).

319. Isochromodes terminata spec. nov.

Forewing: dark brown; both in colour and markings very much resembling the ♂♂ of *I. rufigrisea*; but in this case both sexes are alike; the two lines darker than the ground colour, thick, and marked with fine white dashes on the veins; the first slightly curved from one-fourth of costa to one-third of inner margin; the outer from four-fifths of costa to two-thirds of inner margin, bent outwards between veins 5 and 2; cell-spot black; in the ♀ there is a slight patch of dark grey scales between veins 3 and 4 beyond outer line; in the ♂ there are two black wedge-shaped marks on veins 2 and 3, as in *rufigrisea* ♂; fringe brown, with dark spots beyond veins; in the ♀ the base of fringes is distinctly whitish; the outer line is whitish on inner margin.

Hindwing: similar, without basal line.

Underside cream-colour, slightly dark-speckled: the marginal borders dark fuscous throughout; fringe brown, with pale base and distinct dark spots beyond the veins.

Head, thorax, and abdomen brown.

Expanse of wings: 28 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The ♂ antennae are subserrate, hardly pubescent, without ciliations or fascicles.

320. Isochromodes vestigiata spec. nov.

Forewing: sandy ochreous, thickly but finely dusted with fuscous; the lines very much as in *innotata* Warr. and its allies; the inner line vertical and slightly waved at one-third; the outer from five-sixths of costa to two-thirds of inner margin, angled outwards on vein 4, slender and brown, not marked by black vein-dots, but followed by a grey shade; the median line waved and approaching outer line above inner margin, passing beyond the black cell-spot; submarginal marked by dark spots or blotches on veins; marginal dots small; fringe concolorous.

Hindwing: with the outer line slightly angled outwards at vein 4, meeting

median line on inner margin : marginal area beyond it rather darker, with traces of submarginal spots on veins.

Underside pale straw-colour, with dark speckles along costa and hindmargins of both wings and towards base of forewing; outer line well marked in both wings : followed in forewing by a diffuse brown shade from costa to margin at vein 2, in hindwing by a slight curved submarginal shade ; cell-spots and marginal line black.

Face brown ; fillet whitish ; thorax and abdomen like wings.

Expanse of wings : 40 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Loxapicia gen. nov.

If Guenée's name, *Apicia*, be retained for the broad-winged typical species of the genus, such as *ribicaria* Cram., a fresh term must be found for those species with narrower and more elongate wings and more oblique markings, typified by *lintearia* Guen., the females of which have shortly pectinated, instead of simple, antennae.

321. **Loxapicia humerata** spec. nov.

Forewing : ochreous tinged with flesh-colour and lilac-grey, slightly black-speckled ; markings much as in *L. lintearia* Guen. ; the basal area filled up with lilac-grey ; the basal line itself black-brown, at costa and below middle more plainly expressed than in *lintearia*, and starting farther from base of wing ; outer line double, dark brown, the outer arm more concise, broader in the middle than on inner margin, acutely angled just before apex and retracted to meet a short inwardly oblique brown mark from costa, followed by a black spot in the paler apical space ; the outer line is followed by a lilac-grey shade ; marginal area stained with brown towards margin ; submarginal line indicated by dark wedge-shaped marks between veins ; fringe dark brown.

Hindwing : with long slender brown striations ; the outer line of forewing median, touching the black cell-spot ; a straight brown submarginal line or shade ; fringe brown.

Underside coarsely black-speckled, the forewing stained with brown ; all the dark markings shown, but duller.

Face and palpi brown ; vertex and collar dark grey ; patagia lilac-grey ; abdomen ochreous, with pairs of black spots.

Expanse of wings : 35 mm.

1 ♂ from R. Solocame, Bolivia, 1200 m., January 1901, wet season (Simons), *type* ; 1 ♂ from Chulumani, Bolivia, 2000 m., December, wet season (Simons).

The patagia and basal area of forewing are lilac-grey ; the two lines nearer together on inner margin.

322. **Loxapicia straminea** spec. nov.

Forewing : pale straw-colour, speckled with brown ; traces of a brown first line from one-fifth of costa to one-fourth of inner margin, angulated in the cell before the black cell-spot ; outer line dark brown, thick and wavy-edged externally, from middle of inner margin into apex ; submarginal line indicated by brown spots between the veins ; fringe straw-colour.

Hindwing: with the broad line median, following the cell-spot: slight signs of a submarginal line towards anal angle.

Underside similar, with the lines obscurely marked.

Head, thorax, and abdomen all straw-colour.

Expanse of wings: 33 mm.

1 ♀ from Bulim, Ecuador, December 1900—February 1901 (Flemming & Miketta).

The single specimen is much wasted, but it is manifestly distinct from any described species.

323. **Melinodes contacta** spec. nov.

Forewing: dull yellow, thickly striated with greyish fulvous; costal edge pale with brown striae: lines grey-brown: first from one-fourth of costa to one-third of inner margin, sinuous, slightly oblique below costa and before margin, preceded by a grey shade marked with fine white dashes on veins: outer line from three-fourths of costa, oblique and straight above vein 3, then bluntly bent at right angles to vein 2, thence vertical to two-thirds of inner margin, followed by a grey shade marked with white dots on veins; an obscurely lunulate-dentate submarginal line near hindmargin, curved inwards to touch outer line at vein 3; fringe ochreous chequered with grey; cell-spot grey-brown, somewhat elongated.

Hindwing: like forewing, but without first line.

Underside pale ochreous, with the lines and cell-spots brown; forewing thickly speckled with fuscous.

Head, thorax, and abdomen like wings; vertex brighter ochreous; face and palpi grey.

Expanse of wings: 30 mm.

2 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Greatly resembling *M. furca* Warr., but the outer line quite different.

Mesedra gen. nov.

The species for which this genus is proposed are separated from *Apicia* Guen., in which the ♂♂ have fully pectinated antennae, on the one hand, and from *Pseudapicia* Schaus, where those antennae are quite simple, by having antennae with angulated joints, each angle capped with a tubercle ending in a fascicle of cilia. The costa of forewing is not straight, but strongly arched throughout; the hindmargin of forewing slightly elbowed in the ♀ only, that of hindwing projecting as a small tooth in middle in both sexes. The neuration likewise differs: in the forewing vein 9 does not rise separately from the cell, but is stalked with 7, 8, anastomosing in the usual way, first with 10, 11, and subsequently with 8; in the hindwing the costal and subcostal are not merely approximated, but closely contiguous for half the cell.

Type: *Mesedra confinis* spec. nov.

Eusarca? parallelaria Warr. and *Apicia remista* Dogn. will also come into this genus.

324. **Mesedra confinis** spec. nov.

♂. *Forewing:* dull ochreous, speckled with blackish: the lines very indistinct, pale brownish, but marked by black spots on the veins; first from one-fourth of costa to one-fourth of inner margin, bent in the cell, followed by the black spots;

outer line from costa shortly before apex to three-fourths of inner margin, bluntly bent on vein 7, preceded by the row of black spots; a faint median shade visible in lower half of wing, parallel to outer line and nearer to it than to inner line; cell-spot black; space just beyond outer line clearer, unspeckled; three black spots or blotches between veins 2 and 3, the two inner obliquely above each other and touching the veins, the outer between them; slight black marginal dots at end of the veins in the fringe: fringe concolorous.

Hindwing: with the median shade brown and distinct, passing over the black cell-spot, the outer line less distinct.

Underside very thickly speckled, especially in the forewing; cell-spots and outer lines marked.

Head, thorax, and abdomen ochreous; outside of palpi and upper part of face brownish; vertex whitish; collar and base of costa brownish; dorsal segments of abdomen with pairs of black spots.

♀ with the lines accompanying the black spots much broader and more distinct; submarginal line represented by brown blotches on veins on both wings; marginal area and fringes pale brownish; the three black spots absent.

Expanse of wings: 35 mm.

1 ♂, 1 ♀, from Agualani, S.E. Peru, 10,000 ft., September 1901 (Ockenden).

325. **Mesedra juvenis** spec. nov.

Forewing: pale ochreous, slightly speckled with brown; the lines brown, fairly distinct, and marked themselves by blackish dots on the veins; the inner rather more remote from base and the outer reaching inner margin nearer middle than in *M. confinis*; central shade closer to outer line, and only visible below; cell-spot black; the three dark submarginal spots as in *M. confinis*; a row of dark marginal spots; fringe concolorous.

Hindwing: with the inner shade antemedian, well before the black cell-spot; the postmedian line farther from the outer margin than in *confinis*; a macular submarginal line.

Underside thickly speckled; the outer line of forewing doubled, and the submarginal shade distinct.

Head, thorax, and abdomen pale ochreous.

Expanse of wings: 26 mm.

2 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Hindmargin of forewing evenly curved in ♂, slightly bent in ♀; of hindwing distinctly elbowed in middle; fascicles of antennae of ♂ decidedly longer, more pedicellate, than in *confinis*.

326. **Mesedra munda** spec. nov.

Forewing: bone-colour, sparsely dusted with dark atoms; towards the base tinged with pale brownish or ochraceous, and beyond the outer line brown; first line very fine and indistinct, pale brownish, oblique from one-fourth of inner margin to middle of cell before the black cell-spot, where it fades out; outer line thick, dark brown, from three-fifths of inner margin into apex; it is preceded below middle by a fine pale brownish line representing the median; the brown space beyond it is edged inwardly close to the line by a thick darker brown shade, running to

apex also; the submarginal line is represented by a diffuse blackish blotch lying on vein 3; a slight dark marginal line; fringe dark brown.

Hindwing: wholly bone-coloured; with three straight lines; first antemedian, pale brown, corresponding to the slight median line of forewing; a double postmedian, the inner arm dark brown, the outer diffuse, corresponding to the darker shade of forewing; and a submarginal line, less distinct; a small dark cell-spot; fringe brownish.

Underside tinged with pale brownish, with all the markings obscurely indicated.

Face and vertex white; palpi, shoulders, and abdomen ochreous; patagia whitish.

Expanse of wings: ♂, 22 mm.; ♀, 24 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Hindmargin of hindwing bluntly dentate or elbowed in middle. This will distinguish the species from *remusta* Dogn.; I rather suspect that the ♀ which Dognin coupled with his ♂ is really *munda*.

327. **Mesedra subsequa** spec. nov.

Forewing: ochreous, dusted with pale brown and fuscous speckles; the two lines dark leaden grey, of the same character as in the ♀ of *M. confinis*, but the first is more sharply angled in cell in front of the black cell-spot which it almost touches, while in *confinis* it is roundly curved well before it; outer line thick and oblique from just beyond middle of inner margin into apex, edged inwardly by a fine brown line and somewhat deflected in its course, not simply curved; cell-spot black; beyond it slight traces of a rusty median line; fringe ochreous, with minute dark dots beyond veins.

Hindwing: with a short basal line; a fine obscure median shade touching the cell-spot; a straight postmedian grey shade concisely edged internally; the whole wing with rusty striae; fringe as in forewing.

Underside pale ochreous, much less speckled than in *confinis*; the grey lines all shown.

Head, thorax, and abdomen ochreous; vertex whitish; collar brown.

Expanse of wings: 32 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Hindwing with a distinct angle at middle of hindmargin, which separates it at once from the ♀ of *confinis*, which it much resembles.

328. **Mesedra violacea** spec. nov.

Forewing: cream-colour, tinged with violaceous, with coarse brown speckling; first line at one-third, bent below costa, marked by large brown spots on veins, the shade connecting them violaceous, stronger and darker at costa and inner margin; outer line from four-fifths of costa, angled outwards on vein 7, then oblique, bluntly bent on submedian fold to two-thirds of inner margin, similarly violaceous brown, and marked by large brown vein-spots; sometimes lunulate-dentate, and followed by a violaceous shade running into apex, with a slight lustrous line between; submarginal line formed by brown vein-spots, those on 1, 2, and 3 being large and conspicuous; cell-spot brown-black; fringe brown.

Hindwing: more thickly black-speckled, especially towards base; no inner line; the rest as in forewing; sometimes a distinct median grey shade, which is

hardly visible in forewing; the violaceous tinge strongest in both wings towards hindmargin.

Underside violaceous grey, coarsely and thickly black-speckled; cell-spots and outer line of spots conspicuous.

Face, palpi, and collar brown; vertex and base of antennae snow-white; shoulders grey; patagia, thorax, and basal segments of abdomen white; anal segments violaceous-tinged; dorsum with pairs of dark spots and sometimes speckled with dark.

Expanse of wings: ♂, 28 mm.; ♀, 30 mm.

3 ♂♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The ♂ antennae are armed with pedicellate fascicles of cilia, much longer than in other *Mesedra*, except *M. juvenis*, with which this species also agrees in having the hindmargin of hindwing without any projection at middle.

329. **Metanema fuliginosa** spec. nov.

Forewing: greyish ochreous, tinged and speckled with rufous; a curved diffuse shade at one-fourth, marked with a black dot in cell and another on submedian vein; cell-mark diffuse, rufous; outer line straight, red-brown, from middle of inner margin to four-fifths of costa, followed by a deeper tint; submarginal line indicated by black vein-dots; those on veins 8, 7, 6, 5 nearer outer line, those on 4, 3, and 1 farther off, that on vein 2 developed into a black blotch nearly touching the line; fringe concolorous; very minute dark dots at the ends of the veins.

Hindwing: with the line antemedian, crossing the cell-spot; the submarginal dots farther off and indistinctly united by a shade.

Underside pale bright ochreous, coarsely speckled with black; costa of forewing rufous; a broad sooty-black submarginal fascia projecting squarely to hindmargin between veins 4 and 6 in both wings, and again below vein 2 in forewing; cell-spots large, smoky black; the outer line marked by deep black spots on veins and towards costa by black lunules.

Face and palpi black; fillet whitish; vertex and thorax rufous; abdomen paler.

Expanse of wings: 42 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., December 1901, wet season (Ockenden).

I refer it to *Metanema* provisionally, in the absence of the ♂.

330. **Microgonia distans** spec. nov. and ab. **perfusa** nov.

Forewing: olive-grey, dusted with extremely fine dark atoms, which towards the costa form slender strigae; marginal area beyond the oblique line paler; this line, broadly olive-brown, starts from inner margin at nearly three-fourths, and runs straight nearly to apex, before which it is retracted and bent to costa at three-fourths, and is joined a little before the angle by a slighter dark costal mark; an obscure inner line from costa at one-fourth is bent at right angles in cell and runs straight to inner margin at one-third; cell-spot small, black; fringe dark.

Hindwing: with the line central, broader, and diffusely edged internally, bent at vein 6, followed on costa by a subquadrate black blotch; cell-spot slight,

blackish; marginal area somewhat darker, except at apex, containing faint traces of a submarginal line.

Underside paler grey, with sparser and larger dark mottlings; cell-spots black, distinct; outer line blackish, interrupted, followed by a black submarginal cloud, which does not reach the costa. Hindwing with the submarginal cloud broader and externally dentate, preceded by a curved dentate line, marked by black vein-spots; a slight dark line between this and the cell-spot.

Head, thorax, and abdomen grey; the fillet slightly paler.

Expanse of wings: 70 mm.

1 ♂ from Paramba, Ecuador, November—December 1898, *type*; 7 ♂♂ from San Ernesto, Bolivia, 1000 m., August—September 1900 (Simons).

Of these seven examples three differ from the type form, with which the other four agree, in having the outer half of wing before the dark oblique line suffused with olive-green, darkening to the line, which is more or less lost in the suffusion. In one instance the whole wing to base is thus suffused, the line is narrower, subcrenulate, and edged with pale, and the basal line and median shade are both strongly developed. This aberration, which may be named *perfusa*, superficially much resembles *M. distichata* Guen., but on closer comparison they will be found distinct.

It is, however, quite possible that the species here described is identical with *M. aromata* Druce (*Oxydia*), *Biol. Centr. Am., Lep. Het.* ii. p. 27. t. XLIII. fig. 11, described from a ♀. I have quite lately been able to examine a ♀ exactly like that figured, and, though the two sexes are very different in outward appearance, the disposition of the markings strongly suggests their identity, which further experience must be left to determine.

331. **Microgonia gueenéei** spec. nov.

Oxydia agliata Guen., *Phal.* i. p. 62, ♀ only.
Oxydia gastropachata var., Druce, *Biol. Centr. Am., Lep. Het.* ii. p. 27. t. 43. fig. 10, ♀.

Forewing: yellow ochreous, with an olive suffusion, which is much more pronounced in the ♂ than in the ♀, and thickly speckled with coarse olive atoms which are more conspicuous in the ♀; basal area darker,—more densely speckled, than the rest of wing, bounded by an olive-grey line at one-third, outcurved above and below the median vein; a small black cell-spot, followed by a median shade, often inconspicuous, but well marked and distinct in some of the paler, yellower, examples of the ♀; outer line oblique from beyond middle of inner margin towards apex, before which it is acutely angled on vein 7, and retracted to three-fourths of costa; in the ♂ this line is usually thick, dark brown, in the ♀ finer, olive-grey, outwardly edged with a pale line of ground colour, generally followed by a darker grey shade, cloudy in the ♂, and formed of speckles in the ♀; a dark grey, irregularly zigzag, cloudy submarginal line, plainer in the ♀; the apex of the wing darkened with speckling; fringe darker.

Hindwing: with a central dark line, bent on vein 6 and always thicker above the bend, often, but not always, followed on costa by a blackish blotch; submarginal line as in forewing.

Underside ochreous tinged with ochraceous, coarsely speckled with grey, more thickly in the ♀; all the lines marked, and in addition a postmedian line, closely approximated to outer line on the inner margin of forewing, diverging from it

towards costa, farther from the median and curved on the hindwing; the marginal area beyond submarginal line greyer.

Head, thorax, and abdomen concolorous.

Expanse of wings: ♂, 70—74 mm.; ♀, 80—82 mm.

1 ♂, 1 ♀, from Jalapa, Mexico, *type*; 1 ♀, Huatuxco, Vera Cruz.

The Vera Cruz specimen is very much brighter than the Jalapa examples.

In his description of *agliata* Guenée gives the expanse of the ♂, which he describes first, as 80 mm., that of the ♀ as 72 mm.; but, as far as I know, there is no species of the genus *Microgonia* of which the ♀ is smaller than the ♂; this, therefore, is a *prima facie* cause for believing that Guenée's ♀ was not conspecific with his ♂. The species which I have described above has hitherto been usually identified as *agliata*, but I do not think the identification correct; for, though there are several points in which the two agree, there are others which cannot be made to fit in with both.

332. **Microgonia siccifolia** spec. nov.

Forewing: lilac-grey, washed with chocolate-brown, finely speckled with dark atoms; first line very indistinct, at one-third, forming two curves outwards, one above, the other below the median vein; outer line thick and distinct, chocolate-brown, from inner margin just beyond middle towards apex, hardly convex outwards, at vein 7 acutely angled and retracted to costa; space between the lines tinged with chocolate-brown, deepening to outer line, the costal area remaining lilac-grey; outer area again becoming chocolate along the margin including the fringe, remaining pale lilac-grey along the outer line; cell-spot minute, black.

Hindwing: with the outer line median.

Underside dull olive-grey, thickly speckled, with a dark postmedian line in both wings, not answering to those of the upperside.

Head, thorax, and abdomen rufous grey, like the base of forewing.

Expanse of wings: 56 mm.

1 ♀ from Agualani, S.E. Peru, 10,000 ft., September 1901 (Ockenden).

Forewing with apex produced, falcate; hindmargin gibbous below the subapical sinus.

333. **Microgonia subdecorata** spec. nov. and ab. **prunicolor** nov.

Forewing: deep olive-brown, covered with fine dark striations; the area within the angle of the outer line from two-thirds of costa widening outwards to hindmargin paler, more purely olive; first line from one-third of costa to two-fifths of inner margin, bent in cell; outer line from three-fifths of inner margin straight towards apex, before which it is acutely angulated on vein 7, and retracted to costa; submarginal line very obscure, marked by white dashes on veins; fringe concolorous, with pale tips; cell-spot oval, whitish, with a minute dark centre.

Hindwing: with the line antemedian; no visible cell-spot.

Underside purplish brown along hindmargins, all the rest of the wings suffused with a dove-coloured sheen and varied with bluish-white flecks and striae, these chiefly in cell of forewing and along costa of both wings; cell-spots larger; an outer line of dark lunules, accompanied towards costa by bluish-white scales, not corresponding to the oblique line of the upper surface, the uppermost lunule on hindwing forming a whitish blotch; submarginal line better marked by whitish

scaling, ending on forewing in a large cream-white costal blotch nearly filling up the apical projection.

Head, thorax, and abdomen concolorous; legs ochreous, speckled with olive-brown.

Expanse of wings : 60—65 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

The smaller specimen is without the olive tint, plum-coloured and overspread above, except towards outer line and again towards hindmargin, with a purplish sheen, while the dove-coloured tint below is quite dull, with the white markings restricted to the cell-spots and the course of the outer lines, the pale costal blotch of hindwing being especially distinct; the apical projection of forewing is very decidedly shorter and the hindmargin more bulged at middle than in the example described as type. This form I call ab. *prunicolor*.

334. **Microgonia subdentilinea** spec. nov.

Close to *M. mexicata* Guen., but differing as follows: the marginal area of forewing and the whole of the hindwing much darker, brownish olive; the pale blotch on inner margin beyond outer line larger, and tinged with flesh-colour; costa of forewings olive-brown; the shade following first line and the median shade at costa dark leaden grey and more conspicuous.

Underside of forewing entirely without the yellowish tint of *mexicata*; the two olive-brownish clouds separated by the paler space to anal angle, which occur in that species, entirely wanting, the whole marginal space being greyish, with a waved dark line from inner margin near to anal angle; in the hindwing the dark curved line is not simply curved and narrowed towards outer margin, but more broadly curved, farther from outer margin, and lunulate-dentate, and the line is not edged with paler. Face and shoulders olive-brown, like costal edge of forewing.

Expanse of wings : 60 mm.

1 ♂ from Corondalet, Ecuador (Flemming & Miketta).

335. **Microgonia subductaria** spec. nov.

Also, like *M. subdentilinea*, allied to *M. mexicata* Guen., but quite distinct.

The forewing differs from both in having the apex not produced and the hindmargin straight and more oblique. The forewing is darker grey with scarcely any tinge of olive; the costa is concolorous with the ground colour; the outer line more curved and irregularly waved, and the pale spot of inner margin beyond the outer line restricted in size; the fringe concolorous, not rufous-tinged. In the hindwing the cross-line reaches the inner margin nearer the anal angle.

Underside ashy grey, without brown or yellowish tinge, paler grey beyond the outer line; in the hindwing the dark line is simply curved from three-fifths of costa to two-thirds of inner margin without any projection in the middle towards outer margin; a darker waved submarginal shade, also showing slightly on forewing at inner margin; fringe dark grey.

Head, thorax, and abdomen concolorous, the abdomen along dorsum and the shoulders darker grey.

Expanse of wings : 56 mm.

1 ♂ from S. Javier, R. Cachabi (Flemming & Miketta).

Distinguished at once by the more sombre coloration, non-falcate forewing, and especially by the course of the line on underside of hindwing.

336. **Microgonia versilinea** spec. nov.

Forewing: pale pearl grey, slightly tinged with fawn-colour, sparsely black-speckled, and striated with grey; the fawn-coloured suffusion is strongest immediately beyond the first line, which is, as usual, curved above and below the median vein, but not marked except by the difference of tint; the outer shade beyond the small black discal point is also fawn-colour and produced broadly to anal angle; no oblique line in the usual position; the outer line leaves the costa at four-fifths as a curved chocolate-brown streak running towards outer margin, before which it is angled at vein 7 and descends as a fine whitish line diverging somewhat from hindmargin to four-fifths of inner margin, slightly deeper-tinted interiorly and marked with pale dashes on veins; beyond its costal arm is a kidney-shaped chocolate-edged spot, with paler, ochreous-tinted centre, separated from the line by a whitish costal spot; fringe olive rufous with broad white basal line.

Hindwing: similar, paler along costa and towards base; the pale line parallel to, but farther from the hindmargin, the marginal area darker; cell-spot black; fringe as in forewing.

Underside pale grey, black-speckled, without markings; black cell-spots; fringe rufous grey, without white basal line.

Head and collar dark brown; shoulders pale ochreous, like base of costa of forewing; thorax concolorous with wings; abdomen wanting (probably the same).

Expanse of wings: 45 mm.

1 ♂ from Chimate, Bolivia, September 1900 (Simons).

In colour resembling *M. cyclopeata* Moeschl., but separated by the course of the outer pale line.

337. **Microxydia (?) colorata** spec. nov.

Forewing: brown, speckled with darker; deeper brown in basal area and beyond median line; first line black-brown, from one-fifth of costa to one-third of inner margin, forming a strong curve outwards above and below the median, the curves filled in with leaden grey; outer line at four-fifths, forming at first an acute projection outwards between veins 7 and 6, then mainly parallel to hindmargin, slightly bent outwards below submedian fold; followed by a broad leaden-grey shade starting from a snow-white spot on costa; nearer the apex is a slighter white spot at the beginning of the submarginal line, which is leaden grey, interrupted, and zigzag, and below the middle forms a large blotch coalescing with the shade beyond outer line; median line dark brown; cell-spot black in a leaden-grey ring; fringe grey-brown.

Hindwing: without first line; outer line curved parallel to hindmargin; the rest as in forewing.

Underside dull leaden grey; both wings with broad marginal brownish fuscous borders leaving the apical areas pale grey.

Face and palpi dark brown; vertex and shoulders brownish, tinged with leaden grey; thorax, patagia, and abdomen above brown like wings; abdomen below pale grey.

Expanse of wings: 23 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

338. **Microxydia fulvicollis** spec. nov.

Forewing: cream-colour tinged with lemon-yellow, chiefly along the course of the usual lines, which are represented by diffuse shades; the first near base, curved, and most distinct on inner margin; the outer oblique, beyond middle, starting from a bright chestnut subapical costal blotch, formed of the retracted portion of the line from vein 6, where it is angled, to costa, followed by a costal blotch edged with lustrous lilac and a smaller one at apex; fringe pale yellow.

Hindwing: cream-colour, with a small fulvous yellow spot at two-thirds of inner margin, representing the outer line; fringe pale yellow.

Underside of forewing cream-colour, the costal half yellow; base of costa and cell-spot fulvous brown; apical blotch chestnut. Hindwing yellowish tinged, with slight brown cell-spot and outer line indicated at costa; fringes yellowish.

Face and vertex snow-white; palpi, collar, and base of shoulders chestnut; thorax, patagia, and abdomen cream-colour washed with yellow; antennae brown.

Expanse of wings: 24—26 mm.

4 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Mimoprora gen. nov.

Like *Isochromodes* Warr., from which it is at once distinguished by the palpi which somewhat resemble those of *Anisodes*; the terminal joint is sometimes as long as the first and second together, and is deflexed nearly at right angles to the second; which is rough-haired, while the third is slender with appressed scales and blunt at the tip. The antennae of the ♂ are subserrate and pubescent merely, not ciliate or fasciculate. The hindmargins of both wings are rounded, showing no trace of elbow. The hindtibiae of the ♂ are greatly swollen, with four spurs.

Neuration: forewing, cell half as long as wing; discocellular vertical; first median nervule at one-half, second at seven-eighths; radials normal; 7, 8, 9 stalked from bend in subcostal; 10 and 11 coincident anastomose with 12, 10 separating afterwards, but not anastomosing with 8, 9.

Type: *Mimoprora rubra* spec. nov.

A second species, of which I have seen a single ♀ only, must from the palpi be referred to this genus; this, from the description, I identify as *Subulodes granula* Dogn., of which the palpi are said to be "assez longs, à dernier article grêle et nu."

339. **Mimoprora rubra** spec. nov.

Forewing: dull brick-red or brownish red, speckled with dark; the lines darker, indistinct, but marked by blackish pale-tipped spots on the veins; first at one-third, bent in cell; outer at five-sixths, biconcave, angled outward on vein 4; cell-spot black mingled with grey; an indistinct median shade, parallel to outer line; fringe concolorous, with small black marginal dots at the vein-ends.

Hindwing: similar; the cell-spot large; costal area at base whitish.

Underside rufous ochreous, sparsely speckled; cell-spots black; a smoky blackish marginal band, broad on forewing, but thinning out towards anal

angle, and leaving a pale grey subapical space above vein 4; narrower and not reaching anal angle on hindwing; a dark marginal line.

Head, thorax, and abdomen concolorous; abdomen beneath ochreous.

Expanse of wings: 28—30 mm.

3 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November—December 1901, wet season (Ockenden).

340. **Mimosema flexa** spec. nov.

Forewing: brownish grey, slightly reddish-tinged, speckled and striated with fuscous; lines reddish brown, thick, the inner preceded and the outer followed by a bright ochreous line; the first from one-fourth of costa to one-third of inner margin, bluntly bent in cell; the outer straight and oblique from quite three-fourths of costa to three-fourths of inner margin; submarginal line obscure, but marked by two black wedges on veins 2 and 3, followed by a black spot between them; marginal line reddish grey, interrupted by pale spots at the veins; fringe like wing, with darker middle line, spotted beyond veins below middle; cell-spot black.

Hindwing: similar, without first line.

Underside pale grey, dark grey beyond outer lines, which are marked by black spots on veins; cell-spots black; fringe pale, with dark spots.

Head, thorax, and abdomen like wings; face and palpi brown.

Expanse of wings: 22 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The hindmargin of both wings slightly bent in middle, the hindwing with a slight tooth.

341. **Mimosema rufa** spec. nov.

Forewing: rufous thickly speckled with fuscous; the lines darker rufous, or brown; first from one-fourth of costa to one-third of inner margin, straight; second from two-thirds of costa to two-thirds of inner margin; first preceded and second followed by a grey line; cell-mark linear, brown; submarginal line hardly distinguishable; fringe rufous, the tips paler.

Hindwing: with cell-spot and outer line only, the latter running into anal angle.

Underside pale reddish ochreous, paler in hindwing; the lines and cell-spots all marked; the lines fine and interruptedly lunulate-dentate, sometimes thick and dark grey; costa of forewing with dark striae.

Thorax and abdomen like wings; face and vertex deep red.

Expanse of wings: ♂, 30 mm.; ♀, 34 mm.

4 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, December 1901, wet season (Ockenden).

The ♀♀ are darker throughout, the underside redder.

342. **Mixopsis bella** spec. nov.

Forewing: white, flecked with reddish and olive green and sparser black scales; the costa marked with dull reddish oblique spots and striae; the inner and outer lines olive green, double; the inner at one-third, its inner edge curved

below costa, then vertical, its outer edge broadly dentate on the median vein and again on submedian, concave between; exterior line oblique from two-thirds of inner margin towards apex, the inner arm, which is deeper green, passing from vein 7 vertically to the costa, marked on veins 7 and 8 by a blackish point; the large annular cell-mark also olive green; between it and the outer line a blood-red sinuous line outwardly dentate on the veins, almost touching outer line at inner margin; marginal line lunulate, dark green; fringe shining whitish, chequered with red beyond the veins.

Hindwing: whiter along costa and at base; cell-spot large and round, greenish, with a black central dot; outer line double, greenish, curved; preceded by a reddish sinuous streak from inner margin to cell-spot, and followed by a dentated green submarginal shade; marginal line and fringe as in forewing.

Underside whiter, with fewer speckles and without much red tinge; forewing with the costal striae, the discal ocellus, and the two lines pale green; a red cloud on costa before outer line, stretching across the line towards the middle of hindmargin: hindwing with large black cell-mark, and the two outer lines green.

Face and palpi white below, tinged with red above; vertex and shoulders ochreous; thorax and abdomen whitish ochreous, the latter with fine dark dusting; legs ochreous spotted with dark green.

Expanse of wings: 45 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Closely resembling *M. typharia* Feld., but with much more complex markings.

343. **Nematocampa completa** spec. nov.

Forewing: straw-colour, striated with red-brown, and with the veins red; first line at one-third, thick and straight, not curved; outer third of wing red-brown, with an oval apical space of ground colour, the inner edge also forked at middle on costa; discal line and a curved median line red; fringe wholly red.

Hindwing: wholly red-brown, except a narrow median costal blotch of ground colour, reaching to below the origin of vein 4; a slightly paler submarginal space above anal angle, followed by three black wedge-shaped spots before hindmargin between veins 2 and 4; fringe red.

Underside with margin of forewing as above; hindwing with red-brown margin narrowing off to anal angle, the basal two-thirds straw-colour.

Head, thorax, and abdomen straw-colour with brown speckles; the face paler.

Both wings are angled at middle of hindmargin.

Expanse of wings: 28 mm.

1 ♂ from Pambilar, Ecuador (Flemming & Miketta).

344. **Paracomistis subtractata** Warr.

Until now the only specimen of the species I had seen was the original ♂ type from Surinam, described in *Noc. Zool.* iv. p. 498 (1897). Two ♀♀ lately received from S.E. Peru differ both *inter se* and from the ♂; but the peculiar oval pale space containing the cell-spot of hindwings will always serve to identify the species. In the best-preserved example the ochreous ground colour is very thickly covered with brownish striae and speckles; the outer line with its angle is very slender and indistinct, but there is a very distinct median shade, not seen at all in the ♂,

running straight from two-thirds of costa to middle of inner margin, where it closely approximates to the outer line, and is continued across hindwing before the cell-spot. Underneath the wings are densely speckled, the forewing also suffused, with brownish grey, and with a diffuse dark cloud from costa before hindmargin, leaving the apical space whitish; in neither wing is there a trace of outer angulated line, which in the ♂ is conspicuous. In the other ♀, which is quite pale ochreous (being considerably wasted), the outer line and a more or less waved, not straight, median shade form the edges of a brownish fascia crossing both wings. In this case also, on the underside, there is no distinct outer line, but only a submarginal shade on forewing.

For the present I must refer them both to *subtractata*. They are slightly larger than the ♂, 27 mm. to 24 mm., and are dated November 1901, wet season, from Santo Domingo, Carabaya, S.E. Peru (Ockenden).

Paradoxodes gen. nov.

Forewing: costa nearly straight; apex blunt; hindmargin well curved.

Hindwing: unusually broad, the abdominal margin largely developed and somewhat furrowed beneath, constricted towards base; hindmargin well rounded.

Antennae (♂) slender, filiform; palpi short and stout, porrect, second segment broad, third minute, button-shaped; tongue and frenulum present; hindtibiae thickened, with four spurs; abdomen slender, smooth, pectus not hairy beneath.

Neuration: forewing, cell quite three-fifths of wing; discocellular unusually fine, faintly outcurved below; first median nervule at three-fourths, second close before third; lower radial from a little above middle of discocellular; upper from upper angle of cell; veins 7, 8, 9 stalked, 10 and 11 free; hindwing, costal approximated to subcostal for nearly half of cell; veins 3 and 7 both before angles of cell.

Type: *Paradoxodes subdecora* spec. nov.

Distinguished from *Pseustoplaca* Warr. by the simple antennae of the ♂, and from *Certima* by the smooth and slender body.

345. **Paradoxodes subdecora** spec. nov.

Forewing: dark brown, slightly purplish-tinged, with a few scattered pale scales in places; no distinct lines, but there are traces of darker curved fasciae, one near base, a second more distinct in middle, and apparently two more towards hindmargin; fringe concolorous.

Hindwing: uniformly brown.

Underside of forewing, with the base, except along costa, glossy bluish white, the edge of the patch curved at one-third and diffused along inner margin towards anal angle; a deep yellow spot beyond cell; hindwing with three-fourths of the wing bluish white, only the hindmargin remaining of the dark colour, broad at apex, angled in the middle, and narrowing off to anal angle, where there is also a streak of the white within the dark border.

Head, thorax, and abdomen like wings; pectus bluish white; foretarsi dotted with white.

Expanse of wings: 39 mm.

1 ♂ from Marcapata, E. Peru, 4500 ft.

Superficially recalling *Certima mima* and *mimula* Th. Mg. (*Sabulodes*) and *Pseustoplaca obscurissima* Th. Mg.

346. **Pergama plenilunata** spec. nov.

Intermediate in point of size between *P. traillii* Butler (= *mathanaria* Oberth.) and *Pero stuposaria* Guen., both of which it greatly resembles superficially. It may be distinguished by the following points: the outer line in the forewing is nearly straight, not strongly incurved in its middle third; the discal spot is a grey circle with a black edge, and is preceded by an oblique orange blotch from the costa; on the underside the pale area at anal angle occupies the whole width of the interval between outer line and hindmargin, and above touches vein 4; in *traillii* it lies on the hindmargin, reaching only half-way to outer line, and above, not beyond vein 3.

Expanse of wings: 44 mm.

1 ♂ from R. Inambari, E. Peru, 1000 m., July 1900, rainy season (Simons).

347. **Pergama semiusta** ab.? **latifascia** nov.

Along with six typical examples of *P. semiusta* Butler from Santo Domingo, Peru, taken in November 1901, there was sent one ♂ which differs so considerably that it might well be considered a distinct species. The points in which it thus differs are shortly as follows: all the purplish grey scales of the type, both above and below, have become dull brick-red; the outer line of the forewing is much nearer the hindmargin, so that the central fascia is much wider; the dark shading which usually precedes this line is entirely lost, the line itself being simply edged with black, while above the median, instead of running, as in the type, nearly straight to costa, it forms three outward curves as strong as those below; the line is followed by a pale greyish space which merges gradually into dull brick-red before the margin, without any of the usual markings. From the greater breadth of the central fascia, the absence of the normal shading, and the brick-red coloration, the insect assumes quite a different aspect from normal examples of *semiusta*.

348. **Perusia complicata** spec. nov.

Forewing: yellow, speckled and slightly tinted with rufous grey, the veins marked with the same colour, especially towards hindmargin; basal patch triangular, rufous and fuscous, hardly reaching the costa, its outer edge twice curved and indented below median vein, edged by an obscurely double dark line reaching middle of inner margin; a similar-coloured postmedian fascia, its inner edge marked by a double thick zigzag line, angled outwards on veins 3, 4 and 6, inwards on vein 5, its outer formed by the submarginal line, which is acutely angled on vein 7 and on veins 2 and 3, close to hindmargin, incurved basewards between 7 and 3, leaving a yellow space; a few dark scales along hindmargin, which is faintly bent outward at middle; fringe yellow; cell-spot grey, linear, indistinct.

Hindwing: whitish yellow, with a rufous grey patch at anal angle, continued as a faint submarginal band towards costa; inner margin marked with dark scales; fringe yellow; hindmargin slightly indented beyond cell.

Underside pale yellow; the basal patch and postmedian fascia of forewing dark purplish; cell-spot larger, purplish; hindwing with interrupted purplish submarginal band.

Head and face yellow; abdomen white; thorax and dorsal area of abdomen rufous grey.

Expanse of wings: 26 mm.

1 ♀ from Baños, Peru, September 1899 (Haensch).

This seems distinct from any of the forms of *praecisaria* H.S., though superficially like it.

349. **Perusia graphica** spec. nov.

Forewing: buff, speckled with brown and ferruginous; first line from one-fourth of costa to one-third of inner margin formed of round blackish spots on veins; an additional spot on inner margin; cell-spot pale reddish brown, diffuse; outer line from four-fifths of costa, oblique outwards to vein 6, marked by three round blackish spots, angled and incurved as a fine grey thread to two-thirds of inner margin, preceded by a band of greyish buff, and this by a cream-coloured space widening downwards and containing near its outer edge three brownish patches on the veins; a slight reddish mark on costa before apex, edged with white; fringe buff.

Hindwing: paler, with a slight cell-spot; a darker buff band from inner margin above anal angle containing black spots on veins, obsolete above middle.

Underside with the markings all indicated.

Thorax buff, like forewing, the patagia with brown spots; metathorax with a pair of brown spots; abdomen paler, like hindwing, with a pair of brown spots on basal segment; vertex and face paler; legs brown-spotted.

Expanse of wings: 26 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

350. **Perusia superstes** spec. nov.

Forewing: glossy pale lemon-yellow, dusted with brown specks; costa tinged with brown, especially near base; the lines brown; first at one-third, slightly bent on subcostal vein, otherwise straight; outer line from five-sixths of costa, oblique outwards to vein 6 near hindmargin, there bluntly angled, and sinuous inwards to quite two-thirds of inner margin, above which it is edged with paler brown; a semicircular purplish grey costal mark before apex, its inner arm traversed by the outer line; a rather large brown cell-spot; fringe worn (yellow?).

Hindwing: paler, with a brown outer line, obsolete towards costa.

Underside more coarsely brown-speckled; costa and apex of forewing yellowish; outer line marked by brown vein-spots, and an oblique brown costal streak; cell-spot dark brown; inner line indicated; hindwing with cell-spot and outer series of spots.

Head and thorax pale yellow; thorax with a pair of black spots; abdomen yellow, tinged with ferruginous and with oblique fulvous lateral stripes. I have doubts whether this abdomen belongs really to the specimen.

Expanse of wings: 28 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

351. **Phyllodonta carneata** spec. nov.

Forewing: greyish fawn-colour, with a few faint darker striations; no distinct lines, but two slightly darker shades, the first just before the black cell-spot,

sinuous to middle of inner margin, the outer from costa a little before apex obliquely curved inwards to vein 4, then vertical to inner margin before anal angle, followed by a dull flesh-coloured brown-edged blotch on veins 2 and 3, constricted and all but interrupted in middle, with another less distinct on the margin ; fringe brownish.

Hindwing : with a flesh-coloured belt from apex to anal angle, preceded by a somewhat deeper shade ; the veins slightly paler ; a small black cell-spot.

Underside paler, with black cell-spots and a faint darker submarginal shade.

Head, thorax, and abdomen concolorous with wings ; legs ochreous, brown-spotted.

Expanse of wings : 60 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

The outline of the wings is intermediate between *Phyllodonta* and *Paragonura*, the excision beneath vein 4 being less pronounced ; apex of forewing slightly produced, acute ; hindwing with a straight blunt tail in middle.

352. **Phyllodonta puritana** spec. nov.

Forewing : pearl grey, speckled with black, especially along inner and hindmargins ; cell-spot black ; costal edge paler, spotted with black ; the lines starting from chocolate-brown spots ; first at one-third, marked only at costa and on inner margin ; median shade outcurved beyond cell-spot, obsolete below vein 4 ; outer line from four-fifths of costa, angled outwards on vein 7, then oblique inwards to vein 2, forming an abrupt outward sinus between 2 and 1, to inner margin at three-fourths, where, like the first line, it is marked by some dark scales ; this line on the veins is marked with white dashes, and is followed by a slightly paler grey tinge ; from vein 4 to the submedian fold just beyond the apex of the sinus of outer line two vertical blackish shades enclose a narrow pale grey space and are followed by a dark rufous and grey shade to outer margin ; fringe chocolate brown, darker beyond veins.

Hindwing : rather darker grey, black-speckled only along inner margin ; a small cell-spot ; traces on inner margin above anal angle of two rufous lines which become obsolete in hindwing ; fringe as in forewing, with a pale line at base.

Underside of forewing speckled with black along costa and hindmargin ; an interrupted median shade, a fine lunulate outer line, and thick subapical streak before hindmargin dull brown ; a blackish apical blotch. Hindwing striated with brown ; a macular median shade, obscure waved postmedian and thick zigzag submarginal lines also brown ; a blackish subapical blotch ; cell-spots black in both wings.

Head, thorax, and abdomen pearl grey, the last black-speckled ; forelegs bright chocolate brown, spotted with white.

Expanse of wings : 56 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

The wing margins are subdenticulate at the vein-ends, vein 6 of forewing with a larger tooth ; the marginal projection beyond the semicircular excision cut square in both wings.

353. **Phyllodonta semicava** spec. nov.

Forewing: lilac, with a violet tinge, sprinkled in parts with black scales; costal edge pale, dotted with dark green; first line at one-third, angled outwards above and below the median vein; vinous fuscous, preceded by a pale green shade above, and below the middle by a purplish and green shade, this last preceded by a patch of fiery orange scales on a pale ochreous ground; a conspicuous snow-white dash before the line on the median and submedian veins: cell-spot black, followed by a curved vinous median shade from middle of costa, indistinct below middle, touching outer line on inner margin; outer line from five-sixths of costa, bluntly angled on vein 7, then oblique to just beyond middle of inner margin, double, vinous on costa and inner margin, pale green between, marked with small white dashes on veins 2, 3, 4, 5, larger spots on veins 1 and 6, those on 7, 8, and costa coalescent into a streak; submarginal line vinous red, marked chiefly by points on the veins and a blotch on costa: above the submedian vein between the inner and outer lines and on inner margin before the outer are patches of fiery orange scales; the marginal area thickly sprinkled with violet and green scales; fringe chocolate brown, darker beyond veins.

Hindwing: with basal two-thirds dirty ochreous, with a slight vinous tinge, coarsely striated with purplish fuscous, and towards inner margin with orange scales; outer third, beyond a dark sinuous line, purplish grey, the veins paler and marked with brown; submarginal line not marked except towards anal angle, where it passes through an irregular ochreous patch; fringe from apex to vein 4 pale ochreous with chestnut spots beyond veins, wholly chestnut below; cell-spot large, greenish fuscous.

Underside ochreous, densely speckled with black, vinous, and green scales, and tinged in parts with the same colours; on forewing, all four lines thick and black; a pale unspeckled blotch below middle of marginal area, preceded by a triangular blackish cloud; hindwing with two lines, the central sinuous, touching a round black cell-spot, the outer lunulate, followed by a dark shade at inner margin; a reddish submarginal spot on veins 2 and 3.

Head and thorax lilac, abdomen ochreous, all black-speckled; legs ochreous, dark-marked; pectus greenish ochreous.

Expanse of wings: 56 mm.

1 ♀ from S. Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

In character of markings resembling *flabellaria* Th. Mg. and *songaria* Dogn., but the hindmargin of forewing is simply bulged at middle, without the least trace of the tooth and excision characteristic of the genus, which are both present, as usual, in the hindwing.

354. **Phyllodonta vivida** spec. nov.

♂. Almost exactly like the ♂ of *semicava*, but the hindmargin of forewing is not simple, but irregularly crenulate, veins 2 and 6 ending in a small tooth, and veins 3 and 4 forming a blunt square projection: a slight curved excision below it between 2 and 3.

♀. *Forewing:* bright tawny red, fiery red towards inner margin; costal edge pale with slight dark specks; first line with the central space filled up with pale olive scales; a red-brown median line, squarely bent beyond cell-spot, ending on

inner margin close to outer line, interrupted between veins 1 and 3; outer line shaped and placed as in the ♂, edged by a shining white line followed by a pale olive-green line, separated from the red marginal area by a broad cream-coloured shade, which expands into a large triangular blotch of the same tint before anal angle and another on costa before apex, this latter tinged with pink and grey and containing a bilobed dark-brown spot at the commencement of the submarginal line, which forms the external edge of the cream-coloured shade; veins towards hindmargin paler; cell-spot black in a grey-green ring.

Hindwing: much as in the ♂, but brighter red.

Underside of ♀ pale brick-red, slightly speckled with brown: forewing with inner margin whitish to submedian fold; the three lines well marked, stopping short at the fold; the outer followed below middle by a large black blotch and then a whitish one; submarginal line zigzag below costa and merely paler than the ground colour; apex olive ochreous, this colour also forming a band beyond outer line and forming a broad streak along upper half of cell. Hindwing with inner margin whitish, without markings, to submedian fold; a thick curved brown median line, interrupted by the large oval black cell-spot; outer line dentate, dark and light green; a prominent row of brown submarginal spots intersected by the pale veins; fringe brownish with pale base.

The ♂ has the underside less red, more olive grey-brown, with the markings plainer and more numerous.

Head and thorax bright red; abdomen pinkish grey.

Expanse of wings: ♂, 45 mm.; ♀, 52 mm.

2 ♂♂, 2 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901 to January 1902, wet season (Ockenden).

355. **Pseudapicia muscivaria** spec. nov.

Forewing: pale ochreous, dusted with olive and fuscous atoms, somewhat more densely in the ♀♀: inner line always very obscure, double, curved, from before one-third of costa to one-fourth of inner margin, the outer arm marked with dark dots on the veins; outer line also double, from a little before apex to two-thirds of inner margin, slightly sinuous, both arms lunulate-dentate, the lunules shallow, the inner arm fine, marked with black points on the veins, the outer thick and diffuse, olive green; in the ♂ the line is nearer the apex than in the ♀, and the vein-spots below the costa are larger; close before the outer line on the inner margin there are traces of a fulvous median line which curves away above middle; cell-spot black; submarginal line very obscure, but indicated below middle by three black lunules preceding it, and a slight brown-speckled shade beyond it; fringe ochreous, with small black dots beyond veins at the base.

Hindwing: with median line rather more distinct, wavy, touching the small black cell-spot; the rest as in forewing; the submarginal line more distinct.

Underside ochreous, speckled with olive in the ♀, with blackish in the ♂; the cell-spots and outer lines marked and sometimes parts of the submarginal line.

Palpi ochreous within, brown externally; face whitish with a brownish bar above; vertex white; thorax and abdomen pale ochreous, dusted with darker; dorsal segments in ♂ with a pair of dark dots or ringed with dark.

Expanse of wings: 26 mm.

3 ♂♂, 3 ♀♀, from Santo Domingo, Carabaya, S.E. Peru, November 1901–January 1902, 6000 ft., wet season (Ockenden).

In the ♂ the ground colour is paler and the markings are darker than in the ♀; the apex and elbow at vein 4 are more produced in the ♀, with the hindmargin between slightly concave; in the ♂ these are hardly observable; the antennae of the ♂ are thick, subserrate, with short fascicles of cilia.

356. **Pseudapicia sororcula** spec. nov.

Forewing: pale ochreous, speckled with olive brown and blackish scales and partially slightly tinged with olive brown; first line distinct, angled strongly in cell and on submedian fold, from one-fourth of costa to one-third of inner margin, double, the outer arm marked with black scales, the inner fulvous, with a slightly lustrous pale grey line between; outer line situated as in *Ps. muscicaria*, from costa just before apex to two-thirds of inner margin, but straight, not dentate-lunulate, slightly blackish-marked on the veins, preceded by a distinct and broadish fulvous olive shade, reaching nearly to costa, and followed by first a pale lustrous line and then a narrow olive brown line, running into apex; marginal area partly suffused with greyish olive; submarginal line indistinct, crossing a long blackish blotch between veins 2 and 3, and marked by a small brown spot on vein 5; fringe ochreous, with largish brown spots beyond veins in the basal half; cell-spot large, blackish.

Hindwing: without first line; the outer line as in forewing but nearer to the margin than in *Ps. muscicaria*, starting from costa close to apex, instead of, as in that species, some distance before it; submarginal line fairly distinct, dentate-lunulate, edged outwardly with pale grey and inwardly with olive brownish; fringe as in forewing.

Underside paler, the costa of forewing and the hindmargins of both tinged with greenish and with coarse black speckling; the outer line marked with black at costa and on the veins, and the shade following showing dark; a blackish blotch between veins 2 and 3; cell-spots and marginal spots darker.

Head, thorax, and abdomen ochreous; second segment of palpi externally and sides of face blackish; dorsal segments of abdomen in ♂ black-spotted.

Expanse of wings: 24 mm.

2 ♂♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Very much like *Ps. muscicaria* described above, but distinguished first by the much greater hairiness of the head and thorax; secondly by the shape of the wings: in the forewing the elbow at vein 4 is more pronounced and the margin above it hollowed out; in the hindwing the angle at 4 appears less prominent because the margin at vein 6 is also strongly produced and elbowed, which is not the case in *muscicaria*; besides, the black submarginal blotch of forewing in the present species lies between the veins, whereas in *muscicaria* the black blotches are on them.

357. **Pyrinia formosa** spec. nov.

Forewing: bright canary yellow, without dusting; outer half of wing rosy fulvous, except at anal angle; from the apex a broad deeper rosy band runs to just beyond the middle of inner margin, containing a line down its centre marked by white points on the veins, those beneath costa larger and clearer; cell-spot small, black; fringe rosy fulvous.

Hindwing: not suffused with rosy, but with the rosy band across the middle, from vein 6 to inner margin; fringe yellow; a few black scales on marginal third.

Underside yellow, tinged with fulvous, with a few brown speckles; forewing with a brown-black interrupted line from apex to vein 2; the line hardly shown on hindwing.

Face, vertex, and palpi fuscous like front of forelegs: thorax and abdomen yellow.

Expanse of wings: 30 mm.

1 ♂ from Peru.

The forewing is shortly falcate; in shape the species is like *P. phalata* Guen., but the coloration is different.

358. **Pyrinia junctaria** spec. nov.

Forewing: bright yellow, the speckling rufous, towards costa darker; a narrow oblique costal streak of dark atoms at two-fifths, almost or quite touching a roundish brown cell-spot; another roundish spot not so dark below median before the origin of vein 2; a broad oblique rufous brown streak from apex to middle of inner margin, double throughout, the inner half paler than the outer, the outer embracing a slight extent of hindmargin, the inner a similar extent of costa; a large brown-black spot at anal angle with two slight specks of brown scales above it; fringe yellow, below apex brown.

Hindwing: with distinct central straight brownish streak; a brown spot at apex; fringe yellow.

Underside similar, but the markings duller; in hindwing a more or less complete submarginal band of brown speckling; forewing with a slight pearly spot before apex followed by a yellow costal spot, between the two arms of the oblique line.

Head, palpi, and antennae dark chestnut; thorax and abdomen yellow.

Expanse of wings: 26 mm.

3 ♂♂ from Salampioni, Bolivia, 800 m., August, 1901, dry season (Simons).

Distinguished from *cerocampata* Guen. by the absence of the white spot at apex, as well as by the broader browner oblique line; *mephasaria* Wlk. from Rio Janeiro is much larger.

359. **Sicya ennomaria** spec. nov.

Forewing: yellow, the costa fulvous with short dark striae; first line from two-fifths of costa to one-third of inner margin, straight and oblique inwards, fulvous, plain only at costa and inner margin; outer line from five-sixths of costa to three-fifths of inner margin, very fine, slightly waved, and darker marked on veins; marginal area beyond it fulvous brown, with slight darker striations, narrowly lilac grey along margin below middle beyond an indistinct submarginal line and also at costa before apex; fringe purplish with pale tips; cell-spot minute, brown.

Hindwing: whitish at base, pale fulvous in marginal area, with two pairs of purplish streaks, quite short on inner margin above anal angle; cell-spot very obscure.

Underside whitish yellow, fulvous along costa and beyond outer line of forewing; more faintly in hindwing; a brown blotch at anal angle of hindwing.

Head, thorax, and abdomen yellow, vertex and shoulders paler; thorax and dorsum tinged along middle with fulvous.

Expanse of wings: 30 mm.

1 ♂ from Huatuxco, Vera Cruz.

Differs from typical *Siega* in having the hindmargin of forewing strongly crenulate and forming a blunt square projection between veins 5 and 6.

360. **Simopteryx obliterata** spec. nov.

Forewing: dull olive yellowish, with coarse grey strigae in places; costal area broadly streaked with pale chestnut brown; two diffuse pale brownish clouds on hindmargin, one from before apex to middle of hindmargin, the other from vein 4 to anal angle; a small erect blotch on inner margin at two-thirds, brownish with grey strigae; lines marked only on costal streak as dark outwardly oblique marks at one-third, one-half, and two-thirds; the first is preceded and the third followed by some pale lilac-grey scales and a narrow white line on costal edge; before the apex is a brown patch edged by a short white line representing the submarginal; cell-spot marked by a few whitish and grey scales intermixed; fringe brown with some whitish scales along margin below apex, at middle, and above anal angle.

Hindwing: with the grey strigae fewer; cell-spot grey; white marginal scales reaching from apex to middle.

Underside bright yellow tinged with fulvous, and with large coarse brown speckling; costal area washed with whitish; cell-spot and subapical streak white; basal area and a submarginal fascia constricted in middle fulvous, with dense brown speckling; hindwing with cell-spot black.

Face and palpi externally brown; vertex and antennal shaft lilac grey; shoulders dull olive yellow with the tips dark; abdomen like wings; patagia brighter yellow; pectus and palpi internally bright deep yellow.

Expanse of wings: 56 mm.

1 ♂ from Rio Solocame, Bolivia, 1200 m., January 1904, wet season (Simons).

Distinguished at once by the absence of all lines except at costa.

361. **Sphacelodes quadrilineata**.

Pelia quadrilineata Warr., *Nov. Zool.* vii. p. 222, ♀ (1900).

The original type was a ♀ from Cachabí, Ecuador. Along with a second ♀ from S. Javier, R. Cachabí (Flemming & Miketta), there has also come a ♂, taken by the same collectors, from Corondalet, Ecuador, which shows that the species must be referred to *Sphacelodes* Guen.

The ♂ expands 37 mm., and is therefore larger than the ♀. Instead of the large round orange discal spot, which is so conspicuous in the hindwing of the ♀, the ♂ has merely a small dot. In all else the sexes are alike on the upperside. But below the whole surface of the ♂ is covered with rough velvety brown-black scales, except along hindmargins and at apex of forewing, which are brownish ochreous. The foretibiae are clothed with a fringe of dark hairs and the forefemora with a curled wisp of ochreous brown hairs, while the coxae bear a large patch of long curled straw-coloured scales. The antennae of the ♂ are bipectinate, the pectinations straight and regular, but hardly so long as in *Sphac. culnerania* Hüb., the type species.

Tmetomorpha gen. nov.

Forewing: with costa roundly protuberant at base, incurved at middle; apex shortly prominent; hindmargin oblique outwards and subcrenulate to vein 3, then incurved and shortly excised and oblique inwards to anal angle.

Hindwing: with hindmargin deeply excised between vein 3 and anal angle, veins 3 and 4 ending in strong blunt teeth, 5 and 6 in smaller teeth.

Antennae simple in ♀; bipectinated in ♂; palpi quite short, porrect, blunt; tongue and frenulum present.

Neuration: forewing, cell half as long as wing; discocellular concave; first median at one-half; second at nine-tenths; radials normal; 7, 8 stalked; 9, 10, 11 coincident, anastomosing with 12; 12, 11, 10, separating at regular intervals, 9 subsequently anastomosing with 8 to form the areole; hindwing with costal and subcostal approximated for half of cell; 7 before angle of cell; no radial; medians as in forewing.

Type: *Tmetomorpha bitias* Druce (*Ennomos*).

362. **Erilophodes indistincta** spec. nov.

Forewing: greyish olive, thickly covered with blackish speckling; the markings blackish, but very indistinct; first line from one-sixth of costa, oblique outwards to submedian fold, then vertical to one-third of inner margin; outer line from three-fifths of costa, oblique outwards to vein 4, then inwards and waved, to two-thirds of inner margin; submarginal line zigzag, much obscured below, bluish white and conspicuous at costa preceded by an irregular blackish shading, and followed also by blackish, except between veins 3 and 4, where there is a pale greenish grey patch; black marginal spots between veins; fringe olive fuscous, with pale streaks beyond the veins below the middle, between them above; cell-spot distinct, of black raised scales.

Hindwing: shining, whitish grey, with diffuse black marginal border; an interrupted black marginal line; veins with pale spots at their ends; fringe mottled dark and light.

Underside glossy white, speckled with black; black marginal borders, that on forewings reaching to one-third from apex along costa, with a white marginal patch in each below middle; cell-spots black.

Face and palpi fuscous slightly mixed with white; vertex, shoulders, and patagia grey; abdomen blackish above, whitish beneath; antennae blackish, the pectinations short and regular, the apical third simple; metathoracic tuft black.

Expanse of wings: 44 mm.

1 ♂ from Onaca, Sta. Marta, June—August (Engelke).

THE BIRDS OF THE SOUTH-WEST ISLANDS WETTER, ROMA, KISSER, LETTI AND MOA.

By ERNST HARTERT.

THE Dutch have given the name of the South-West Islands to these and other islands to the north and east of Timor, and in this term include also Dammer, or Dama, in the Banda Sea. In a former article (*Nov. Zool.* 1900, pp. 12-24) I have described the birds from Dammer, therefore I do not mention them here again, and shall discuss only the birds of those islands where our indefatigable correspondent Heinrich Kühn has collected. He visited the islands of Wetter, Roma, Kisser, Moa and Letti. Unfortunately he was so far not able to go to Babber, which differs faunistically considerably from the more western islands, and to Sermatta, of which nothing is known at present. On the other hand he made by far the best collections ever brought together on Wetter, Letti and Kisser, and visited Roma and Moa as the first ornithological collector.

Our knowledge of the avifauna of these islands has hitherto been very imperfect. The first birds sent to a European museum were some collected by D. S. Hoedt, one of the famous collectors of the Leyden Museum, who visited Wetter, Letti and Kisser between 1863 and 1868. He discovered some very fine species, but the number of species collected by him was very small. A few birds were sent more recently to the Dresden Museum by J. G. Riedel from Wetter, Letti, Babber, Luang, and Dawelor. Luang is a small islet between Leikor and Sermatta, Dawelor close to Babber.

In 1896 and 1897 Karl Schädler sent large and fine collections to Leyden from Kisser (38 species), Wetter (54 species), and Babber (31 species), altogether 244 skins and 173 in spirits. This was indeed a large increase, and it seemed that not very much could be left on the three islands for a bird collector.

Nevertheless we induced Mr. Heinrich Kühn to try his luck; and not only did he send the first birds from Roma and Moa, but also on Letti, Kisser, and especially on Wetter, very many additions were made, among them some unexpected novelties, such as *Myzomela kuehni*, *Calornis kuehni*, and others.

As practically the whole material known until the beginning of this century (with the exception of the few specimens in the Dresden Museum) was preserved in Leyden, Dr. Finsch happily resolved to give a list of the birds known from all these islands, and wrote an excellent article: "Systematische Uebersicht der Vögel der Südwest Inseln," in vol. xxii. of the "Notes of the Leyden Museum," pp. 225—309, plates 3—5 (1901). This contained 123 species, including those from Dammer (52). From Wetter he enumerated 58, from Kisser 35, Letti 24, Babber 37. Needless to say, Dr. Finsch's account has been of the greatest value to me during my work, especially as he had so many types before him; still more needless to say that it is as conscientiously written as all the works of its author. Nevertheless my conclusions differ in various cases from his. Ornithologists will be aware without my statement that this is due to our different views of treatment of closely allied forms. Dr. Finsch acknowledges only species, and still raises the question: species or not species? I recognise not only species, but also subspecies (geographical forms).

Very slight differences are by Dr. Finsch not considered sufficient for "specific" separation, while for me no differences are too slight for "subspecific" separation, if connected with geographical separation. My subspecies (geographical representatives) are either disregarded by my opponents or treated as species. This difference is not one between Dr. Finsch and myself, but that between two schools of ornithologists, of which much has been said and more will be said in another place. But apart from my different mode of studying closely allied forms, the larger series collected by Mr. Kühn have sometimes given me the advantage over Dr. Finsch, who often had a few specimens only. Frequently where he had one or two I had before me six, eight or more, and where he had four, five or six, I had twenty-nine, thirty or forty specimens or more, and from several more islands. From Wetter Kühn sent 84 species (an increase of 26 to those known), from Letti 57 (an increase of 36), from Roma 60 (none known before), Moa 58 (none known before), and also from Kisser many more than formerly were registered.

Wetter (Weeter or Weeta) is the largest of the islands visited. It is not much more than forty kilometres north of E. Timor. Its fauna is mostly Timorese, but there are some very striking peculiar forms, such as *Mopecoenus hoedti*, *Sphecotheres hypoleucus*, *Stigmatops notabilis*, *Myzomela kuehni*, and some very strongly marked subspecies. Wetter is apparently of very old volcanic origin, with high and partly bare mountains. A great portion of the island is covered with tamarind-trees, mixed with a tall tree with smooth white stems and very small leaves; under the trees grow grass and many thorny creepers. Kühn says that he never saw a country with so many thorny creepers, trees and bushes. They were a great trouble. The rare *Charaxes* was always found among the thickest thorn bushes, and it was almost impossible to catch them on account of the thorns, which stopped progress of man and net. The steep hills resemble heaped-up masses of *débris*, and are mostly but thinly covered with green, though in the valleys and on the more sheltered slopes grow many kinds of lemons, sweet citrons and mandarines. In April should have been the rainy season, but rain fell only a few times, so that there was great drought. In addition to this affliction, locusts were devastating the plantations and smallpox was decimating the natives. On Kisser the latter disease killed 1200 of 8000 inhabitants. Wax and honey from the numerous wild bees, sandalwood, lemons, goats and buffalo-horns are exported. Mr. Kühn was very unlucky on Wetter. The drought caused scarcity of food and the dust was most disagreeable. The northern side of the island could not possibly be visited, on account of the hostility of the head-hunters, who are very strong and indomitable and were not attacked by the smallpox. The first collection, made in April 1901, of 516 skins and 600 lepidoptera, was entirely lost in shipwreck, but the result of the second stay in September and October 1902 was similar as regards birds, though lepidoptera were then very scarce. Fever attacked Mr. Kühn and all his men very severely, and one of the latter died afterwards. Besides the species sent, Mr. Kühn saw, but failed to obtain: (1) a kind of swallow; (2) *Haliastur indus intermedius*; (3) a *Cuculus* (? *intermedius*); (4) a gull; (5) a *Monarcha* (? *inornatus*); (6) the *Strix* from Kisser; (7) the *Munia* from Kisser; (8) a kind of *Dicaeum* (?); (9) a large white heron; (10) *Scythrops novaehollandiae*; (11) a grey heron; (12) a light grey heron with black edges to the wings. According to native reports a small parrot, *Hypocharmosyna* or *Nasiterna* (?!) occurs, but this seems very doubtful.

Roma (Romah or Teralta) lies about 27 miles E. of Wetter, 21 miles N.N.E.

of Kisser, and is about twelve miles long. It is very mountainous, and Kühn thinks it consists of several ancient volcanoes. He found several warm and even hot sulphurous springs. Sulphur occurs in some places. Kühn says he came across basaltic and trachytic pillars; while in other parts of the isle, especially on the south side, coralline limestone predominates. Ferruginous sand or iserine and large shingles or boulders of sulphide of lead are frequent along the shore. Roma is well wooded and fertile. The greater part of the population are Christians, the rest are devoted to the "opolare" or cult of the ancestors. The men wear mostly only a belt, the women (at least the heathens) only the Malayan "sarong" and a short blackish blue jacket ("kabaya"), dyed with indigo. All the women are experts in weaving. Tortoiseshell, copra, green snail-shells and wax are exported. Of mammals Kühn noticed only wild pigs, cuscus, a paradoxurus, rats and mice. Of reptiles many large pythons, a green poisonous snake, several harmless snakes, and some lizards—among them a flying one—were seen. In addition to the birds sent, *Haliastur indus intermedius*, *Haliaëtus leucogaster*, and a large owl were noticed. Very few insects were about, on account of the continued drought.

Kisser (Kissa) lies south-eastward of the east end of Wetter, and about 15 miles north of the east end of Timor, and is about five miles long and four miles wide. Its summit is about 805 ft. high. It is fertile and well inhabited.

Letti is about 23 miles E.N.E of the East Cape of Timor, 35 miles S.E. by E. from Roma, and about eight miles in extent. It is fertile and well wooded, though sometimes suffering from drought.

Moa is separated from Letti by a channel four miles in width; it is about twenty miles long. On the N.E. part of the island is a high mountain 4100 ft. high; the rest is generally flat and coralline, with little cultivation on the S. and S.E. sides.

As I have said before, collections were unfortunately not made on the more eastern islands, Sermatta and Babber. This is the more regrettable as the avifauna of Babber differs considerably from that of the more western islands, being, in fact, in many instances very similar to that of Tenimber. Needless to say, the islands nearest to Timor have more Timorese forms than those farther east. The following list will show what is found on the various islands. It would seem that the avifauna of the islands visited by Kühn is now fairly well known, and I hope that he will, when recovered from his attack of malaria, also visit Sermatta and Babber.

GALLINACEAE.

1. **Megapodius duperreyii** Less. & Garn.

Megapodius duperreyi Lesson et Garn., *Bull. Sci. Nat.* viii. p. 113 (1826: Dorey, New Guinea); Finsch, *Notes Leyden Mus.* xxii. p. 302 (Wetter, Babber).

Mr. Kühn sent 4 from Wetter, collected in September and October 1902 (Nos. 5701, 5701*a*, 5775, 5853) and 12 from Roma, July, August 1902. (Nos. 5247, 5248, 5249, 5330, 5385, 5386, 5387, 5388 and 4 without numbers.) "Iris coffee-brown (dull and bright), feet orange-red with brown on top of toes (yellowish vermilion with brown toes), bill dirty orange (dirty yellow)."

2. **Gallus ferrugineus** (Gm.).

Wild fowls were met with in great numbers on Wetter, but the great variation in the males and the geographical distribution at once suggest that

they are feral. Some of these birds, in fact the majority, are indistinguishable from *Gallus ferrugineus* from India and China, though some have very short tarsi. Probably either wild-caught *G. ferrugineus* have been introduced, or more likely a race of domestic fowl descendant from *Gallus ferrugineus* has run wild and thus the jungles of Wetter are inhabited by an apparently quite wild fowl.

About the nomenclature of this species see *Nov. Zool.* 1902, p. 218, and "Aus den Wanderjahren eines Naturforschers," p. 196.

3. **Synoicus raaltenii** (S. Müll.).

Perdix Raaltenii S. Müller, *Verh. Nat. Gesch. Ned. Bez., Land- en Volkenkunde*, p. 158 (1839–44 : Timor).

Synoicus Raaltenii Finsch, *Notes Leyden Mus.* xxii. p. 302 (Kisser).

Common on Letti, November 1902. (Nos. 5904—5906, 5967, 6055, 6087, 6088, 6423—6426.) "Iris ♂♀ burnt-sienna red (dark burnt-sienna red, dark chocolate red), feet yellowish ochreous, bill ash-grey with black tip."

Moa, 4 ♂♀, December 1902. (Nos. 6301, 6302, 6409, 6410.)

Wetter, 6 ♂♀, September—October 1902. (Nos. 5579, 5580, 5720, 5871—5873.) 1 ♀, 16. iv. 1901. (No. 3751.)

Kisser, 7 ad. 2 pull., April—May 1901. (Nos. 3877, 4029, 4030, 4031, 4033, 4076, two pulli without numbers.)

The latter are above brown, each feather with a buffy white shaft-stripe, a brown-black subterminal bar and some such spots nearer the base, head and neck uniform brown, underside paler, and with smaller, more spot-like blackish markings.

All these birds belong to the typical *raaltenii*, not to the pale Savu form.

HEMIPODII.

4. **Turnix maculosus** (Temm.).

Hemipodius maculosus Temminck, *Pig. et Gallin.* iii. pp. 631, 757 (Australia).

New to these islands. Dr. Finsch has predicted its occurrence.

7 ♂♀ ad., Wetter, April 1901, September, October 1902. (Nos. 3763, 5577, 5578, 5719, 5859, 5868, 5869.) "Iris brownish white (yellowish white, whitish ochreous, naples yellow), feet ochreous, bill below and often basal portion above yellowish, rest blackish brown."

1 ♂, Kisser, 5. v. 1901. (No. 4010.)

4 ♂♀, Moa, November—December 1902. (Nos. 6202, 6203, 6306, 6307.)

COLUMBAE.

5. **Ptilinopus cincta cincta** (Knip & Temm.).

Columba Cincta Knip and Temm., *Pigeons* i. p. 58, pl. 23 (1808–1811 ; locality uncertain. We must accept Timor as the typical locality, this being the only island where it was obtained, except later on on Wetter).

Ptilopus cinctus Finsch, *Notes Leyd. Mus.* xxii. p. 292 (Wetter).

Very common on Roma and Wetter.

Mr. Kühn sent 7 from Wetter, 30 from Roma, the former collected in October, the latter in July. (Nos. 5119—5123 and 5181–5186, from Roma, 5559, 5560, 5709—5713 from Wetter, the rest without numbers.) "Iris burnt-

sienna red (dark vermilion), feet bluish crimson (pale violet, dirty violet), bill sulphureous." All these specimens appear to be indistinguishable from those from Timor, though of the latter I could only compare six specimens.

6. **Ptilinopus cincta lettiensis** Schleg.

Ptilopus cinctus lettiensis Schlegel, *Nederl. Tijdschr. Dierk.* iv. p. 9 (1871 : Letti).
Ptilopus lettiensis Finsch, *Notes Leyden Mus.* xxii. p. 293 (partim : Letti only, not Babber).

P. c. lettiensis is evidently only known from Letti and Moa, as well as from Luang, according to Meyer. The birds from Babber and Dammer, as we shall see, are different, while the locality Timorlaut is quite doubtful ; Meyer described a young specimen received from there through Riedel, but not a second specimen has come to hand from Timorlaut of this rather conspicuous bird, therefore the locality is most likely erroneous. Kühn sent : 7 ♂♀ ad. from Moa, November 1902 (Nos. 6145—6150, 6158) ; 9 ♂♀ ad. from Letti, November 1902 (Nos. 6021—6024, 6047, 6048, 6081—6083). "Iris burnt-sienna red, eyelid chromeous, feet purple, bill yellow."

7. **Ptilinopus cincta ottonis** subsp. nov.

Differs from *P. c. lettiensis* at a glance by the colour of the tail, which has the slate-coloured basal portion less extended, not sharply separated in a straight line from the yellowish-white terminal portion, but more or less irregularly, gradually merging into the latter, which is thus more extended. The rump and upper tail-coverts are olive-green instead of slate-grey with a greenish tinge, as in *P. c. lettiensis*.

Hab. Dammer and Babber. *Type*, ♂ ad. Woeloer, Dammer I., 4. xi. 1898 (No. 953 H. Kühn coll.). Named in honour of Dr. Otto Finsch.

When writing about the birds of Dammer Island, *Nov. Zool.* 1900, p. 21, I united the Dammer specimens with *P. c. lettiensis* on the strength of a male from Babber (Bebber), received as *P. c. lettiensis* from the Leyden Museum. Dr. Finsch, *Notes Leyden Museum* xxii. p. 293, fully described the difference between the Babber and Letti specimens, but did not give a name to the former. It may be added that the extent of the dark and light colour on the tail as well as the colour of the rump varies, and that some of the specimens are somewhat intermediate and not easy to name without knowledge of the locality, but they are only a few, and a close examination always shows where they belong, at least one of the distinguishing characters being nearly always well marked.

The seven forms of *Ptilinopus* with attenuated first primary, blue-black or black pectoral band and pale apical band to the rectrices are of one "type," agreeing in their principal features, and replace each other on various islands of the east. They are in my opinion best treated as subspecies of *P. cincta*. They may be distinguished as follows :—

1. Breast, neck and head white with more or less yellow or buff tinge or powdered with pale grey ; 2.
   Breast, neck and head bluish grey, only upper throat and band separating the blue-black pectoral band white ; 6.

2.	Abdomen blue-grey	*P. c. alligator* Collett, *P. Z. S.* 1898, p. 354 : Alligator River, N.W. Australia.*
	Abdomen yellowish olive-green : 3.	
3.	Breast and neck peppered with grey : .	*P. c. ecceretti* Rothsch., *Bull. B. O. C.* 1898, p. 34 : Alor and Pantar.
	Breast and neck white with lemon tinge : 4.	
4.	Terminal bar to tail slate grey, only about 2 cm. wide	*P. c. cincta* (Temm.), *Pigeons* i. p. 58 : Timor, Wetter and Romah.
	Terminal bar to tail greyish white, over 3 cm. wide : 5.	
5.	Rump slaty, tinged with greeny, pale tip to tail sharply separated . . .	*P. c. letticnsis* Schl., *Ned. Tijdschr. Dierk.* iv. p. 9 : Letti and Moa.
	Rump olive-greeny, pale tip to tail more extended and not sharply separated .	*P. c. ottonis* Hart., Dammer and Babber.
6.	Slightly larger, wings more blue-black .	*P. c. albocinctus* Wall., *P. Z. S.* 1863, p. 496 : Flores, Sumbawa, Lombok.
	Slightly smaller, wings more greenish .	*P. c. balicnsis* Hart., *Nov. Zool.* iii. p. 553 : Bali.

P. c. ecceretti is not so closely allied to *P. c. letticnsis* as Dr. Finsch (*Notes Leyden Mus.* xxii. p. 294) appears to think, the band to the tail being less wide and darker grey ; the peppered grey neck and chest make it distinct enough to be called a "good species" by those who are not very generously disposed towards subspecies.

8. **Ptilinopus xanthogaster roseipileum** subsp. nov.

[*Columba Xanthogaster* Wagler, *Syst. Av.*, *Columba* spec. 29 (1827 : Ex Temminck "Celebes" errore. I accept Banda as the typical locality, as Temminck originally described 3 from Celebes and 3 from Banda).]

Ptilopus xanthogaster Finsch, *Notes Leyden Museum* xxii. p. 291. (Kisser, Wetter : errore, non *P. xanthogaster xanthogaster*).

All specimens from the islands of Roma, Moa, Kisser, Letti and Wetter differ from *P. x. xanthogaster* from Banda, Key, Dammer, Taam, Teoor, Manggoer, Koer and Timorlaut in the following characters :—

The pileum, instead of being light lavender-grey, is of a light cream-colour, in fine specimens beautifully tinged with rosy, the concealed median portions of the feathers pale yellow. The middle of the throat is of a paler lemon-yellow, the narrow yellow line bordering the pileum extends more distinctly to the

* With the exception of the two type specimens in Norway our specimen seems to be the only one in Europe.

lores and lower jaw, the foreneck does not seem to become so light as in very adult typical *xanthogaster*.

(*Type*: No. 5384 Roma, 11. viii. 1902. H. Kühn coll.)

9 ♂ ♀, Roma, July, August 1902. (Nos. 5173, 5372—5375, 5380, 5384, 5406.)

5 ♂ ♀, Kisser, April, May, June 1901. (Not numbered.)

7 ♂ ♀, Moa, November, December 1902. (Nos. 6138—6140, 6271, 6272, 6319, 6320.)

8 ♂ ♀, Letti, October, November 1902. (Nos. 5893—5895, 6068, 6084—6086, 6496.)

7 ♂ ♀, Wetter, October 1902. (Nos. 5702—5708.)

"Iris orange (ochreous, yellowish ochreous, reddish ochreous, dull orange), feet olive-grey (plumbeous grey, olivaceous), bill dirty green (pale green, olive-green, dull blackish, base below light)."

Young birds have the head and neck more or less greenish grey, as in *P. x. xanthogaster*.

I have not seen examples from Babber, but I suppose they might belong to the typical *xanthogaster*, the birds of Babber being often the same as those of Timorlaut or Dammer, while different from those of the more western islands (Letti, Kisser, Moa, Roma*). (Dr. Riedal obtained *Ptilinopus wallacei* on Babber. Cf. Meyer, *Abh. Isis* 1884.)

9. **Carpophaga cineracea** (Temm.).

Columba cineracea Temminck, *Pl. Col.* 563 (1835; Timor).

Six specimens were collected on Wetter in April 1901 and September 1902. (Nos. 3749, 3757, 3775, 5548, 5549, 5550.) "Iris whitish yellow (chromeous), feet reddish dark grey (greyish black, reddish black), bill slate-black (slate-grey), greyish or slaty below."

This rare pigeon has hitherto only been known from Timor. We have no Timor specimens to compare. Sexes alike.

10. **Carpophaga rosacea** (Temm.).

Columba rosacea Temminck, *Pl. Col.* 578 (1835; Timor).
Carpophaga rosacea Finsch, *Notes Leyden Museum* xxii. p. 295 (Wetter, Kisser, Letti, Babber).

Mr. Kühn found this wide-spread pigeon common on Romah, Moa, Letti, Wetter and Kisser.

15 ♂ ♀, Roma, July 1902. (Nos. 5025, 5230, 5236—5239, 5247, 6418, the rest without numbers.)

6 ♂ ♀, Moa, November—December 1902. (Nos 6207, 6233—6235, 6377, 6417.)

7 ♂ ♀, Letti, November—December 1902. (Nos. 6045, 6095, 6098, 6478—6481.)

7 ♂ ♀, Wetter, April 1901, September—October 1902. (Nos. 5542—5547, 3750.)

10 ♂ ♀, Kisser, April—June 1901. (Nos. 3885, 3886, 3969—3972, 4055, 4079, 4084, 4085.)

"Iris burnt-sienna red (dark scarlet, scarlet), eyelids and nostrils crimson, feet bright crimson (brownish crimson, purple, pinkish crimson, pinkish purple), bill ash-grey (slate-grey)."

* In *Not. Zool.* 1901, p. 93, under the heading of *Ptilinopus viridis*, I mentioned, among others, two females from Goram, Manowoka group, which, however, are females of *Ptilinopus viridii prasinorrhous*, which is also found on the Key Islands, Teoor, Goram-laut, Kisoei and Kilsoein.

There is a great variation in the amount of vinous tinge and greyish hue underneath, and the specimens from Kisser are nearly all lighter. They are, however, mostly in very fresh plumage, and geographically there can be no reason for a different race to inhabit Kisser.

11. **Carpophaga concinna concinna** Wall.

Carpophaga concinna Wallace, *Ibis* 1865, p. 383 (Matabello, Sangir, Banda Ké); Finsch, *Notes Leyden Museum* xxii. p. 294 (Babber).

Kühn found the typical *C. concinna* common on Roma, in the month of July (Nos. 5242—5246, four without numbers), and Moa in December 1902 (Nos. 6370—6376, 6419). "Iris chromeous (chromeons orange), feet pink (bright crimson, crimson), bill black (slaty black, slate-black)."

It is curious that Kühn shot only *females*, with the exception of one immature *male*.

I disagree entirely with Dr. Finsch, who must be mistaken, saying that specimens from Goram and the Key Islands are underneath lighter and have been separated by me as *C. concinna separata*. The birds from Goram are typical *concinna*, while those from Key were named by me *separata*, because they differ very conspicuously, though single individuals are sometimes, but very rarely, a little difficult to recognize. The two forms are typical subspecies (geographical races). (Cf. Hartert, *Nov. Zool.* 1896, p. 180; 1901, pp. 93, 94, 112.)

12. **Columba metallica** Temm.

Columba metallica Temminck, *Pl. Col.* 562 (1835: Timor); Finsch, *Notes Leyden Museum* xxii p. 226 (Babber, Wetter, Timor, Dammer).

This species was formerly only known from Timor, but Doherty, Everett and Kühn have discovered it on Sumbawa, Lombok and Dammer, Schädler on Babber and Wetter. Kühn has now sent a series from Moa, December 1902. (Nos. 6399—6403.) "Iris orange, eyelids and bare spot round eye crimson; feet purple, bill crimson, tip of upper bill whitish."

I have not seen specimens from Babber, but the variations mentioned by Dr. Finsch are found on the same islands among our series, and—especially as the bird is also found on Dammer—I have therefore no doubt that the Babber form is also typical *C. metallica*.

13. **Turacoena modesta** (Temm.).

Columba modesta Temminck, *Pl. Col.* 552 (1835: Timor); Finsch, *Notes Leyden Museum* xxii. p. 297 (Wetter).

Mr. Kühn sent seven specimens from Wetter, 1 ♀ 15. iv. 1901, 2 ♂♂, 4 ♀♀, September—October 1902. (Nos. 3758, 5425—5428, 5859.) "Iris a narrow yellow ring with a blackish crimson line around it; bill and feet black."

All these examples are immature or in very worn plumage, and this probably accounts for a less glossy neck and somewhat small size. Dr. Finsch says that Wetter specimens do not differ from Timor ones.

14. **Macropygia magna** Wall.*

Macropygia magna Wallace, *P. Z. S.* 1863, p. 497 (Timor) ; Finsch, *Notes Leyden Museum* xxii. p. 298 (Timor, Wetter, Letti).

Mr. Kühn sent a large series, as follows :—

25 ♂♀, Roma, July 1902. (Nos. 5112—5115, 5195—5202, the rest without numbers.)

4 ♂♀, Letti, November, December 1902. (Nos. 6050, 6474—6476.)

5 ♂♀, Kisser, April, May 1901. (Nos. 3878, 4039, 4040, 4081, 4092.)

7 ♂♀, Wetter; 1 ♀, 16. i. 1901, 6 ♂♀, September, October 1902. (Nos. 3752, 5655, 5787—5791.)

7 ♂♀, Moa, November, December 1902. (Nos. 6122, 6123, 6221—6223, 6342, 6343.)

"Iris bluish grey with pale crimson outer ring ; feet crimson (pale crimson, bright crimson, pinky flesh, brownish crimson, brownish purple, purple-brown), bill blackish (brownish, brown or black, tip of under mandible whitish or pale horn-colour."

15. **Turtur tigrina** (Temm. & Knip).

Columba tigrina Temm. & Knip, *Pigeons* i. pl. 43, p. 94 (Java, Timor, etc. : 1811).
Turtur tigrina Finsch, *Notes Leyden Museum* xxii. p. 298 (Letti, Kisser, Wetter, Dawelor).

11 ♂♀, Roma, July, August 1902. (Nos. 5125, 5174, 5318—5320, 5377—5382, two without numbers.)

11 ♂♀, Letti, November, December 1902. (Nos. 5881—5886, 6490—6493.)

8 ♂♀, Wetter, September, October 1902. (Nos. 5475—5478, 5648—5650, 5852.)

4 ♂♀, Moa, November, December 1902. (Nos. 6218, 6232, 6337, 6384.)

6 ♂♀, Kisser, April, May 1901. (Nos. 3868, 3784—3786, 3870, 3884.)

16. **Geopelia maugeus** (Temm. & Knip).

Columba Maugeus Temm. & Knip, *Pigeons* i. p. 115, pl. 52 (1808—1811 : "les iles de l'Australe-Asie." I accept Timor as the original habitat).
Geopelia Maugei Finsch, *Notes Leyden Mus.* xxii. p. 299 (Letti, Wetter, Kisser, Babber).

5 ad., Kisser, April, May, June 1901. (Nos. 3802, 4051, 4052, 4106, 4107.)

4 ad. and immat., Wetter, September, October 1902. (Nos. 5604—5607.)

8 ad., Letti, November, December 1902. (Nos. 5888—5892, 5966, 6494, 6495.)

6 ad., Moa, November, December 1902. (Nos. 6128—6132, 6385.)

14 ad. and immat., Roma, July, August 1902. (Nos. 5076, 5077, 5124, 5143—5146, 5251—5254, three without numbers.)

"Iris bright bluish grey (bluish grey), eyelids chromeous, feet greyish violet (purple-violet, violet), bill dark ash-grey, tip brighter, (bluish grey or grey with greenish base)."

Geopelia striata is said to occur on Babber and Dawelor (Meyer, *Verh. Zool. Bot. Ges. Wien* 1881, p. 772).

* Among the birds collected by the late A. Everett in South Flores I find there is a specimen of *Macropygia nuchalis* (= *leptogrammica*), a ♀, October 1896, shot at an altitude of about 3500 feet. This species is new to Flores. When recording Mr. Everett's collections, *Nov. Zool.* 1898, I mentioned (p. 49) only *Macropygia emiliana*, of which several were sent. The single specimen of *M. nuchalis* was apparently overlooked. About the name *nuchalis* see *Nov. Zool.* 1901, p. 119.

17. Chalcophaps chrysochlora timorensis Bp.

[*Columba chrysochlora* Wagler, *Syst. Av.*, *Columba* spec. 79 (1827 : Synonyms partly and habitat ("Ceylon, Java, Sumatra, China") erroneous! Description solely referable to the Australian, etc., form. I accept Australia as the typical habitat!).]

Chalcophaps timorensis Bonaparte, *Comptes Rend.* xliii. pp. 948, 949 (1856 : Timor).

Chalcophaps chrysochlora Finsch, *Notes Leyden Mus.* xxii. p. 299 (Letti, Wetter, Kisser, Babber).

It is difficult to understand why recent authors have "lumped" the true *chrysochlora* and *timorensis*. The former is found in Australia, New Guinea, and small islands near it, New Hebrides, New Caledonia, the latter over the South-West Islands, and on the Timor groups of islands. True *chrysochlora* has the head, neck and upper back vinous, even in the oldest *males*; with or without a grey wash on the occiput, and only a band across the shoulder, formed by the tips of some of the lesser coverts, greyish white. Adult *males* of true *timorensis*, on the other hand, have the hinder crown (from about the eyes), the occiput and a continuous wide stripe along the hind-neck together with the upper back bluish grey, and more white on the lesser wing-coverts, the white occupying nearly the whole lesser upper wing-coverts and forming a large patch. Thus far the two forms are as distinct as possible, only immature *males* being less easily recognisable, and should by all ornithologists of the "species-or-not-species-period" be recognised as two different species, but this has generally been overlooked. Nowadays, in the "subspecies-as-well-as-species-period," we look upon these representative forms as subspecies and name them trinomially. Moreover the birds from the South-East Islands (Koer and Manggoer) seem to be intermediate: they have the large white patch on the shoulders as in *timorensis*, but there is not much grey on the head, neck and back. Our series of adult *males* is, however, very small, and I therefore do not name this form. From the Timorlaut and the Key Islands we have only one adult *male* each. The former looks like those from Koer and Manggoer, the latter more like *chrysochlora*, with an apparently small white shoulder-stripe, as in the latter.

All our examples from the South-West Islands are true typical *timorensis*. They are as follows :—

12 ♂♀, Kisser, April, May, June 1901. (Nos. 3873—3875, 3879, 3952, 4057, 4060, 4061, the rest without numbers.)

4 ♂♀, Moa, November, December 1902. (Nos. 6316—6318, 6404.)

7 ♂♀, Wetter, September, October 1902. (Nos. 5714—5718, 5656, 5657.)

7 ♂♀, Letti, November, December 1902. (Nos. 5926, 5959, 5960, 6043 6487—6489.)

21 ♂♀, Roma, July, August, 1902. (Nos. 5187—5191, 5216—5220, 5327, 5328, nine without numbers.)

Two of the Roma birds have some white feathers on the back and middle wing-coverts, one also some on the breast, the other one white rectrix and one of the under tail-coverts white. A *male* from Kisser (3879) has the lower flank-feathers very pale bluish grey, and on one of them a glossy coppery spot. One from Wetter has several round coppery spots on the abdomen. "Iris (dark) coffee-brown (dark brown), feet purplish (violet, pale purple, crimson, in young birds pale purplish, blackish brown and greyish brown), bill coral-red, base purplish, in very young birds brown or blackish."

18. **Alopecoenas hoedtii** (Schleg.).

Leptoptila Hoedtii Schlegel, *Nederl. Tijdschr. Dierk.* iv. p. 30 (1871 : Wetter).
Alopecoenas Hoedti Finsch, *Notes Leyden Mus.* xxii. p. 300, pl. 5.

This remarkable pigeon is only found on Wetter. It is of course not a *Leptoptila* (a purely American genus), nor a *Phlegoenas*, and must be placed in a special genus : *Alopecoenas* Finsch.

Mr. Kühn sent 11 ♂♂ and 8 ♀♀, shot on Wetter in April 1901 and October 1902. (Nos. 3754, 5744—5752, 5699, the rest without numbers.)

♂ : "Iris dark coffee-brown, feet purplish (violet, reddish violet, brownish violet, purple), bill black."

♀ : "Iris dark coffee-brown (brownish black), feet violet (pinkish crimson, crimson), bill black."

Hitherto only known from the two specimens in the Leyden Museum, and not even obtained by Schädler.

RALLIDAE.

19. **Rallina fasciatus** (Ratfl.).

Rallus fasciatus Raffles, *Trans. Linn. Soc.* xiii. p. 328 (1822 : Sumatra).

♀ ad., Kisser, 22. iv. 1901 (No. 3799). "Iris burnt ochreous red, eyelid bright crimson ; feet brownish red ; bill dull black."

(*Rallina tricolor victa* Hart. is found on Dammer.)

20. **Amaurornis phoenicurus leucomelaena** (Müll.).

[*Rallus phoenicurus* Forster, *Zool. Ind.* p. 19, pl. 9 (1780 : Ceylon).]
Gallinula leucomelaena G. Müller, *Verh. Nat. Gesch. Ned. Ind., Land- en Volkenkunde*, p. 158 (1839–44 : Timor).
Amaurornis phoenicura (errore) Finsch, *Notes Leyden Mus.* xxii. p. 304 (Wetter).

A mistake has been made by Legge, Sharpe, Finsch and others in uniting the form *leucomelaena* with Indian *phoenicurus*. It is perfectly true that young *A. ph. phoenicurus* have not so much white in the face as adult ones, but one must not compare the young of one form with the adult of another, or *vice versa* ; and altogether old birds show differences generally better than young. If comparing the proper material we find that fully adult *A. ph. phoenicurus* have a white forehead, *A. ph. leucomelaena* never; that adult *A. ph. phoenicurus* have the lores, a line above the eye and sides of neck white, while adult *A. ph. leucomelaena* have the lores, all the space above the eye, a wide stripe below the eye and the sides of the neck to about the middle dark slate-colour, the lores and face sometimes spotted with white ; and that *A. ph. phoenicurus* has the breast and abdomen white, the sides only slate-colour, while *A. ph. leucomelaena* has these parts slate-colour, near the white rather darker, only a wide white band along the centre. This last difference is even seen in young birds, which have much more white along the middle of the underside in *A. ph. phoenicurus*. The young of both forms have the dark portions on the under surface brownish, the white shaded with dusky edges to the feathers. We must distinguish three subspecies :

1. *Amaurornis phoenicurus phoenicurus* : adult birds with forehead, lores and sides of head white, breast and abdomen mostly white. *Hab.* Indian Peninsula

and Ceylon, through the Burmese countries to Southern China, and through the Malay Peninsula to the Sunda Islands as far as Sumbawa, also Celebes.

2. *Amaurornis phoenicurus insularis:* adult birds with forehead, lores and sides of head white as in No. 1, but breast and abdomen deep slaty black, nearly black, with a white line along the middle. *Hab.* Andamans and Nicobars.

3. *Amaurornis phoenicurus leucomelaena:* adult birds with forehead, lores and sides of head white, breast and abdomen slate-colour, white along the middle. *Hab.* Timor group of islands from Flores, Timor, Wetter, Roma, and Tukan-Besi Islands south of Celebes, the latter somewhat intermediate, as are apparently also some specimens from Flores, though they are certainly not true *phoenicurus*.

Mr. Kühn sent the following specimens from the S.W. Islands: 2 ♂♂, 1 ♀, Roma, July 1902. (Nos. 5129, 5130, 5329.) 2 ♂ ad., 1 ♂ juv., 3 ♀♀, Wetter, September, October 1902. (Nos. 5437, 5666, 5767—5770.)

"Iris burnt-sienna red (chocolate, scarlet, coffee-brown), feet dull brown (pale ochreous, brownish ochreous, olive-brown), bill green with red frontal shield and nostrils (dirty olivaceous with vermilion base, bright green below)."

21. **Poliolimnas cinereus** (Vieill.)

Porphyrio cinereus Vieillot, *Nouv. Dict.* xxviii. p. 29 (1819: no locality).

♂ ad., Wetter, 27. x. 1902 (No. 5875).

22. **Porphyrio melanotus** Temm.

Porphyrio melanotus Temminck, *Man. d'Orn.* ii. p. 701 (1820: "Nouvelle Hollande").

1 ♀ ad., Wetter, 13. x. 1902 (No. 5774). "Iris scarlet; feet reddish flesh-colour with greyish joints; bill vermilion."

This bird seems to agree fully with typical *melanotus* from Australia.

A specimen recorded by me under the name of "*P. smaragdinus*" from St. Aignan belongs to *P. melanotus*. Dr. Sharpe (*Cat. B.* xxiii.) distinguishes between "*P. calvus*" and "*P. smaragdinus*." It is, however, clear that *P. calvus*, *P. indicus* Horsf. and *P. smaragdinus* are synonyms of the Java-Sumatra form. The birds called *calvus* have the thighs greenish, and in both sexes and all ages a verditer-blue chest patch, while in the birds I call *P. melanotus* only the male seems to have this differently coloured patch, and the thighs are not greenish blue, but blackish blue or purplish blue-black, like the flanks. If this view is correct there are two subspecies:

1. *P. calvus calvus* 1819 (*indicus* and *smaragdinus* synonyms): Java, Sumatra, Borneo to Celebes.

2. *P. calvus melanotus* 1820 (*smaragdinus* Sharpe, *Cat. B.*, but not Temm. (!) synonym): Moluccas and Timor group of islands to Australia, New Guinea, New Zealand, and perhaps Fiji and New Hebrides.

LARIDAE.

23. **Sterna bergii** Licht.

Sterna bergii Lichtenstein, *Verz. Doubl.* p. 80 (1823: Cape of Good Hope).

5 ♂♀ ad., Moa, November 1902. (Nos. 6361—6365.)

2 ♂♀, Letti, November 1902. (Nos. 6041, 6042.)

LIMICOLAE.

24. **Morinella interpres** (L.).

Tringa Interpres Linnaeus, *Syst. Nat.* ed. x. (1758) p. 148.

♀, Letti, 4. xi. 1902. (No. 5931.)

The generic name *Morinella* (1810) has the priority over *Strepsilas*, which dates from 1811. Brisson's "generic names" being inadmissible, *Arenaria* cannot be used, dating from 1819 (Vieillot).

Labiranellus miles is mentioned by Barchewitz in 1751 as occurring on Letti. (Cf. Finsch, *Notes Leyden Mus.* xxii. p. 305.)

25. **Charadrius squatarola** (L.).

Tringa squatarola Linnaeus, *Syst. Nat.* ed. x. p. 149 (1758).
Squatarola subtridactyla Finsch., *Notes Leyden Mus.* xxii. p. 305 (ex Hasselquist 1757 ?) (Kisser).

5 ♀, Letti, November, December 1902. (Nos. 6507—6510, 6079.)
1 ♀, Moa, November 1902. (No. 6273.)

26. **Charadrius dominicus fulvus** (Gm.).

5 ♂ ♀, Letti, November, December 1902. (Nos. 5954, 5955, 5957, 5958, 6511.)
5 ♂ ♀, Moa, November, December 1902. (Nos. 6272, 6327—6329, 6412.)

27. **Ochthodromus mongolus** (Pall.).

Charadrius mongolus Pallas, *Reise d. versch. Prov. Russ. R.* iii. p. 700 (1776: Salt Lakes of Mongolia).

4 ♂ ♀, Letti, November 1902. (Nos. 5934—5936, 6064.)
2 ♂ ♀, Moa, November, December 1902. (Nos. 6268, 6350.)
1 ♀, Roma, 26. viii. 1902. (No. 6346.) This specimen has a rather thick and short bill.

28. **Ochthodromus geoffroyi** (Wagl.).

Charadrius geoffroyi Wagler, *Syst. Av., Charadrius* no. 19 (1827).
Ochthodromus Geoffroyi Finsch, *Notes Leyden Mus.* xxii. p. 305 (Kisser).

8 ♂ ♀, Letti, November 1902. (Nos. 5932, 5933, 5937, 6062, 6063, 6066, 6067, 6093.)
6 ♂ ♀, Moa, November, December 1902. (Nos. 6214, 6269, 6348, 6349, 6420, 6551.)
2 ♂ ♀, Wetter, September 1902. (Nos. 5469, 5470.)
1 ♀, Roma, 10. viii. 1902. (No. 5402.)

29. **Himantopus leucocephalus** Gould.

Himantopus leucocephalus Gould, *P. Z. S.* 1837, p. 26; Finsch, *Notes Leyden Mus.* xxii. p. 306 (Kisser).

♂ ad., Roma, 28. vii. 1902. (No. 5266.) "Iris scarlet, feet pink, bill black."
♂ ad., Letti, 12. xi. 1902. (No. 6078.)

30. **Numenius phaeopus variegatus** (Scop.).

Totanus variegatus Scopoli, *Del. Faun. Flor. Insubr.* ii. p. 92, 1786 (ex Sonnerat, Luzon).

2 ♂ ♀, Moa, November 1902. (Nos. 6154, 6360.)
1 ♀, Letti, November 1902. (No. 6080.)

31. **Limosa lapponica novaezealandiae** Gray.

2 ♂♂, 1 ♀, Letti, November 1902. (Nos. 5927, 5928, 6077.)

32. **Totanus stagnatilis** Bechst.

Totanus stagnatilis Bechstein, *Orn. Taschenb.* ii. p. 292 (Germany).

5 ♂♀, Letti, November 1902. (Nos. 5950—5953, 6046.)

33. **Totanus glareola** (Gm.).

2 ♂♂, Wetter, October 1902. (Nos. 5829, 5877.)

1 ♂, 1 ♀, Letti, November 1902. (Nos. 5938, 5939.)

34. **Tringoides hypoleucus** (L.).

8 ♂♀, Letti, November, December 1902. (Nos. 5940—5944, 6059, 6089, 6506.)

3 ♂♀, Moa, November, December 1902. (Nos. 6270, 6347, 6421.)

5 ♂♀, Wetter, 16. iv. 1901, October 1902. (Nos. 3744, 5730, 5731, 5828, 5878.)

5 ♂♀, Roma, August 1902. (Nos. 5367, 5370, 5403—5405.)

1 ♀, Kisser, 3. ix. 1902. (No. 5869.)

Dr. Finsch recorded it from Kisser, Wetter, and Babber.

35. **Heteractitis brevipes** (Vieill.).

2 ♂♂, Wetter, September 1902. (Nos. 5471, 5472.)

36. **Terekia cinerea** (Güld.).

Scolopax cinerea Guldenst., *Nov. Comm. Petrop.* xix. p. 473, pl. 19 (1774).

6 ♂♂, Letti, November 1902. (Nos. 5945—5949, 6057.)

"Iris dark brown (blackish), feet chromeous (orange), bill black, base pale orange (dirty yellowish, pale orange.)"

37. **Limonites ruficollis** (Pall.).

5 ♂♀, Letti, November 1902. (Nos. 5919—5921, 6060, 6061.)

1 ♀, Wetter, 25. x. 1902. (No. 5827.)

"Iris brown (blackish brown), bill and feet black."

38. **Heteropygia acuminatus** (Horsf.).

Totanus acuminatus Horsfield, *Trans. Linn. Soc. Lond.*, xiii. p. 192 (1821: Java).

2 ♀♀, Letti, November 1902. (Nos. 5937, 6052.)

39. **Tringa crassirostris** Temm. & Schl.

Tringa crassirostris Temminck & Schlegel, *Fauna Japon.* p. 107, pl. 64 (1847: Japan).

♂♀, Moa, December 1902. (Nos. 6330, 6346.)

40. **Esacus magnirostris** (Vieill.).

Oedicnemus magnirostris Vieillot, *Nouv. Dict. d'Hist. Nat.* xxiii. p. 231 ("La Nouvelle Hollande").

♂, Roma, 25. viii. 1902. (No. 5409.)

2 ♂♂, Moa, November, December 1902. (Nos. 6274, 6375.)

♀, Letti, 18. xii. 1902. (No. 6497.)

Barchewitz described in 1751 a bird from Letti, which was evidently *Lobivanellus miles* (Bodd.). Cf. Finsch, *Notes Leyden Mus.* xxii. p. 305.

PLATALEAE.

41. **Platalea regia** Gould.

Platalea regia Gould, *P.Z.S.*, 1837, p. 106 (Australia).
Platalea intermedia Grant, *Ibis*, 1889, p. 52 (Port Moresby, New Guinea).

♀, Wetter, 29. x. 1902. (No. 6099.) "Iris chestnut brown, feet black, bill black with pale tip."

ARDEIDAE.

42. **Ardea sumatrana** Raffl.

Ardea sumatrana Raffles, *Trans. Linn. Soc. Lond.*, xiii. p. 325 (1822 : Sumatra).

♂ ad., Roma, 20. viii. 1902. (No. 5407.) "Iris golden yellow, feet pale chromeous, bill black, laterally greenish, pale greenish along the bottom."

43. **Notophoyx novaehollandiae** (Lath.).

Ardea novaehollandiae Latham, *Ind. Orn.* ii. p. 701 (1790 : Australia).

♀ ad., Roma, 14. vii. 1902. (No. 5141.) "Iris whitish yellow, feet ochreous yellow, bill black, dirty white below towards base."

44. **Nycticorax caledonica** (Gm.).

Ardea caledonica Gmelin, *Syst. Nat.* i. p. 626 (1788 : New Caledonia).
Nycticorax caledonicus, Finsch, *Notes Leyden Mus.* xxii. p. 308 (Kisser).

♂ ad., ♀ ad., ♀ juv., Moa, December 1902. (Nos. 6353—6355.)

♂ ♀ ad., Roma, 20, 27. viii. 1902. (Nos. 5408, 5826.)

45. **Demiegretta sacra** (Gm.).

Ardea sacra Gmelin, *Syst. Nat.* i. p. 640 (1788 : ex Latham, Tahiti insulisque vicinis) ; Finsch, *Notes Leyden Mus.* xxii. p. 308 (Kisser, Babber).

1 ♂ (slate), 2 ♀ ♀ (white), 1 ♀ (slate), Kisser, May 1901. (Nos. 3973, 3974, 4096, 4097.)

1 ♀ (white), 1 ♀ (slate), Roma, July 1902. (Nos. 5203, 5204.)

1 ♀ (slate), Wetter, 27. ix. 1902. (No. 5700.)

2 ♂♂ (white), 2 ♂♂ (slate), 4 ♀ ♀ (slate), 1 ♀ (white), 1 unsexed (white), Moa, November, December 1902. (Nos. 5265, 6276—6278, 6356—6359, 6415, 6416.)

46. **Bubulcus coromanda** (Bodd.).

Concroma coromanda Boddaert, *Tabl. Pl. Enl.* p. 54 (1783 : ex Daubenton, Coromandel coast).

♂, Wetter, 26. x. 1902. (No. 5879.) "Iris whitish sulphureous, with black outer ring, feet black, bill yellow."

♂, Moa, 25. xi. 1902. (No. 6275.)

ANATIDAE.

47. **Anas gibberifrons** S. Müll.

Anas gibberifrons S. Müll., *Verh. Nat. Gesch. Ned. Ind., Land- en Volkenkunde*, p. 159 (Celebes).

2 ♂ ad., Wetter, 14. x. 1902. (Nos. 5771, 5772.) "Iris chocolate red."

STEGANOPODES.

48. **Phalacrocorax melanoleucos** (Vieill.).

Hydrocorax melanoleucos Vieillot, *Nouv. Dict. d'Hist. Nat.* viii. p. 8 (1817: Australia).

2 ♀ ♀, Letti, 11, 12. xi. 1902. (Nos. 6038, 6039.) "Iris whitish grey, feet black, bill dirty orange, with blackish culmen."

49. **Sula sula** (L.).

Pelecanus Sula Linn., *Syst. Nat.* ed xii., i. p. 218 (1766: ex Brown, Sloane, Brisson, Catesby, "Habitat in Pelago indico." Typical locality West Indies—Jamaica: ex Brown, Sloane).

♀ imm., Letti, 8. xi. 1902. (No. 6040.)

RAPACES.

50. **Spizaëtus limnaëtus floris** Hart.

Spizaëtus limnaëtus floris Hartert, *Nov. Zool.* v. p. 46 (1898: Flores).

One specimen, marked ♂, Wetter, 14. x. 1902. "Iris pale brownish yellow with darker veins, feet yellowish white, bill ash-grey with black tip." (No. 5867.)

This bird must be my *S. l. floris*, or a still larger subspecies. It is in an immature dress, presumably in its second or third year. The upper surface is deep brown and white, the feathers being dark brown, paler towards the base, those of the hind-neck and back white with large deep brown tips. Tail brown with blackish-brown bars, primaries blackish brown, the inner webs irregularly barred and mottled with white and brown towards the bases. Underside white with blackish-brown shaft-stripes, the feathers of the thighs deep brown, spotted, some almost barred, with white. Under wing-coverts blackish with a few white spots, axillaries black-brown, bases and some spots and patches white. Dimensions very large, larger than in the two adult types of *S. l. floris*. Wings 495 (or nearly 500), tail 270, middle toe without claw 65, metatarsus 95, bill from cere to tip in a straight line 35 mm.

51. **Haliaëtus leucogaster** (Gm.).

Dr. Finsch mentions it as coming from Kisser. We have received no specimens, I might almost say "fortunately," considering how common a bird it is and how much space it takes up in the drawers.

52. **Haliastur indus intermedius** Gurney.

Haliastur intermedius Gurney, *Ibis*, 1865, p. 28 (Java).

Dr. Finsch mentions Kisser, Babber and Wetter. We received it from Kisser, Moa and Letti, all typical *intermedius*, underneath white with narrow black shaft-lines, like hair-streaks.

Kisser, 4 ad., 1 med., April—May 1901. (Nos. 4044, 4046, 4047, 4103, 4121.) Letti, 1 ♂ ad., 10. xi. 1902. (No. 6094.) Moa, 1 ♂ ad., 2 juv., November—December 1902. (Nos. 6261, 6264, 6414.)

"Iris dark brown in young and old."

53. **Astur torquatus wallacii** Sharpe.

Astur wallacii Sharpe, *Cat. B. Brit. Mus.* i. p. 128, pl. V. (1874: typ. loc. Lombok. Cf. *Nov. Zool.* 1903, p. 20).

Astur torquatus Finsch, *Notes Leyden Mus.* xxii. p. 239.
Astur torquatus Temm., *Pl. Col.* 43 (1821 : I accept Timor as the typical loc. See *Noc. Zool.* 1903, p. 20).

Wetter : ♂ ♀ adult, 3 ♂, 2 ♀ juv., September, October 1902. ♂ ♀ ad. : "Iris sulphureous (chromeous), feet ochreous yellow (ochreous), bill black with ashy base, cere yellow." (Nos. 5430, 5431, 5658, 5659, 5660, 5661, 5773.)

Letti : 6 ♂, 3 ♀ ad., 3 ♀, 2 ♂ juv., November—December 1902. (Nos. 5962, 6049, 6069, 6071, 6072, 6074, 6482, 6483, 6484, 6485.)

Moa : 4 ♀, 2 ♂ ad., 2 juv., November, December 1902. (Nos. 6152, 6260, 6340, 6366, 6367, 6388, 6397.) Juv. : "Iris dark brown (brown, sulphureous), feet wax-yellow, bill black with ashy base."

I cannot do otherwise than unite these birds under the name of *A. t. wallacii*. They agree perfectly with the series of that form from other countries, as opposed to the typical *A. t. torquatus* from the Timor group. It is very peculiar that the latter is also found on Alor (*Noc. Zool.* 1903, p. 20), but the specimens from there agree with *A. t. torquatus* and not with *A. t. wallacii*. The two adult Wetter birds are less reddish, somewhat more pointing to *A. t. torquatus*, but not quite typical. In my article quoted above I have stated how the various forms of *A. t. torquatus* differ, and I do not desire to follow the convenient course of uniting them. In no case, however, is *A. t. sumbaensis* more distinct than *wallacii*.

54. Tinnunculus moluccensis occidentalis Mey. & Wigl.

[*Tinnunculus moluccensis* Bonaparte, *Consp. Ac.* i. (1850) p. 27 (ex Hombron & Jacqu. : Amboina).]
Tinnunculus moluccensis occidentalis Meyer & Wiglesw., *Abh. und Ber. Mus. Dresden*, 1896-7, No. 2, p. 8 (Celebes—typ. loc.—Timor, Sumba, Flores).

Kisser, common, April—June 1901. (Nos. 3850, 3881, 3954, 3955, 4041.) Wetter, 1 ♀, 17. x. 1902 (No. 5851). Letti, 4 "♂♂" November—December 1902. (Nos. 6036, 6037, 6076, 6486.) Moa, November—December 1902. (Nos. 6152, 6236, 6237, 6341, 6394, 6395, 6553.)

T. m. occidentalis is very distinct from *T. m. moluccensis*. All the above birds are very light.

55. Falco peregrinus melanogenys Gould.

Falco melanogenys Gould, *P. Z. S.* 1837, p. 139 (Australia).

1 ♀ juv., Wetter, 5. iv. 1901. "Iris black, feet sulphureous, bill grey with black tip and pale yellow nostrils."

There can be no doubt that *melanogenys* is the Australian form of *F. peregrinus*, and it is only consistent to name it trinomially.

STRIGES.

56. Pisorhina manadensis tempestatis subsp. nov.

The Scops-Owl from the island of Wetter forms a distinct race by itself. It differs at a glance from *P. m. albicentris* by the greater uniformity of the underside in the greyish-brown phase, the abdomen not differing from the breast, while in *P. m. albicentris* the abdomen is more or less white, contrasting with the rufous breast, and by the finer markings on the upperside, where the black markings in the middle of the feathers are not so bold. It thus resembles *P. m. manadensis* much more, and in fact differs (in the greyish-brown phase) from the latter almost

only in the finer, less bold black markings on the upper surface. But there is another peculiarity: while in the other forms (*P. m. manadensis* and *P. m. albirostris*) fox-red specimens are very rare (of *P. m. manadensis* only on record two in the Leyden Museum and a few in Dresden) or unknown (I find no record of a fox-red *P. m. albirostris*), they are evidently as numerous as the brown ones on Wetter. Of four specimens from Wetter in Leyden two belong to it, and of nine sent by Kühn four are fox-red. These four red specimens from Wetter are as different as two species can be from the brown ones, being bright fox-red above with narrow black shaft-lines and spots, the breast pale cinnamon, with heavy brown-black spots in the middle of the feathers, the abdomen beautifully mottled with white, cinnamon and blackish. How these fox-red examples differ from those of *S. m. manadensis* I cannot say, but according to Dr. Finsch they are not essentially different. Mr. Kühn sent four brown males, one brown female, two fox-red males, and two fox-red females, according to his sexing. They were obtained in September and October 1902. "Iris sulphureous, feet dirty grey or pale greyish flesh-colour, bill black, blackish or dark horn-colour, lower mandible pale (or dirty) horn-colour." (Nos. 5778—5784, 5786, 5781*a*.)

Type: No. 5782, Wetter, 15. x. 1902. H. Kühn coll.

Dr. Finsch unites (*Notes Leyden Mus.* xx. pp. 173—177) *P. m. manadensis* and *P. m. albirostris*, but if a series is compared the differences are conspicuous enough. In *Notes Leyden Mus.* xx. p. 177 he seems to cast doubts on my *P. alfredi* from Flores, which, however, must be kept specifically separate, because *P. m. albirostris* occurs also on Flores—though *alfredi* may be the mountain form. *P. alfredi* (as shown in my description and figure, *Nov. Zool.* 1898, pl. 1.) differs from the various forms of *P. manadensis* by its almost uniform foxy-cinnamon upperside with large white marks on the scapulars, very fine mottlings on the abdomen, a smaller and yellow bill (while in the red as well as in the brown *P. manadensis* and *P. tempestatis* the upper bill is blackish, the lower whitish or horn-colour), and the bareness of the lower part of the tarsus, this last character not being shown in the plate but stated in the description.

57. **Ninox ocellata** subsp.?

The *Ninox* of the islands of Moa, Letti and Roma are very difficult to understand. They are closely allied and, in fact (with the sole exception of a little brighter rufous markings underneath), indistinguishable from the *Ninox* of Savu, near Timor, which I have called *N. ocellata* (cf. *Nov. Zool.* 1897, pp. 263, 264, 269). They are, however, all exactly alike in coloration and markings, and differ only slightly in dimensions. They are above cinnamon-brown, the hind-neck distinctly spotted with buff, scapulars and wing-coverts with the usual markings of *Ninox boobook* and *ocellata*. The underside is white with rufous, or rather cinnamon-brown markings. The wings measure 208 to 225, mostly about 215 mm. The iris is described by Mr. Kühn as "whitish yellow (whitish pale brown, yellowish with brown tinge, yellowish brown, dull brown)," the feet as "ash-grey," the bill as black with grey base (bright grey with black sides)." Generally they are smaller than *ocellata* from Queensland; but these forms are very difficult, and there seems to be a gradual merging from the birds called "*boobook*" into those called "*ocellata*," and of both there seem to be some more local races in *Australia*—for example, a very reddish one in West Australia.

2 ♂♂, 2 ♀♀, Moa, November—December 1902. (Nos. 6252, 6279, 6368, 6369.)

2 ♂♂, 2 ♀♀, Letti, November 1902. (Nos. 5963, 5964, 5965, 6097.)

1 ♂, Roma, 12. vii. 1902. (No. 5128.)

Dr. Finsch (*Notes Leyden Mus.* xxii. p. 244) mentions *Ninox scutulata* from Wetter: but probably the bird belongs to another race, either the same as I have before me from Moa, Letti, Roma, or another one again. Large series are wanted for a complete study of these owls, and single specimens often cannot be named with certainty. The very much darker, less reddish *N. scutulata* is not known to us as far east as the South-West Islands, and is rather different from *ocellata*, though finally they may all be looked upon as subspecies of one form. *Ninox fusca* of Timor is a very distinct form with greyish pale ear-coverts.

58. **Strix flammea javanica** Gm. an subsp. nov.?

Mr. Kühn sent three examples from Kisser. They agree with one sent by Mr. Everett from Atapupu in Timor in 1897, which I have recorded as *Strix flammea* subsp., without saying to which form it belonged, this being, in the genus *Strix*, often quite impossible without a series. The owls from Kisser and Atapupu agree with *S. f. javanica* in their size, powerful bill and very large feet, the latter, if anything, being inclined to be more powerful still. The markings are also the same; but many of the *javanica* are more yellowish, less greyish, and the black and white spots are strikingly larger in the birds from Kisser and Atapupu. On this account they will probably one day be separated subspecifically, but the material at my disposal seems not numerous enough to warrant my separating it already.

The Kisser birds are probably all males, two being marked so, the third doubtful. On Kisser they nest on the rocks on the coast. The specimens were shot in May and June 1901. "Iris dark brown, feet dirty white or yellowish white, bill whitish. (Nos. 4120, 4103, 4103*a*.)

PSITTACI.

59. **Trichoglossus haematodus haematodus** (L.).

Psittacus haematodus Linn., *Mant. Plant.* p. 524 (1771: partim. We have to regard Timor as the typical locality).

We have received a fine series from Wetter and Roma. Specimens from these islands are not separable from the Timor form, although it is remarkable (as already noticed by Dr. Finsch, *Notes Leyden Mus.* xxii. p. 285) that they have less frequently well-developed yellow concealed patches to the feathers of the upper mantle, and hardly ever orange ones. Nevertheless, many specimens are absolutely identical with Timor ones. On the other hand, *Trichoglossus haematodus fortis* (*Nov. Zool.* 1898, p. 120) from Sumba is a well-marked subspecies, distinguishable by its larger bill and general size (wing), and, if a series is carefully compared, also by some slight colour-differences, as mentioned in my original description.

27 ♂♀ ad., Roma, July, August 1902. (Nos. 5085—5097, twelve without numbers.)

14 ♂♀, Wetter, April 1901, September 1902. (Nos. 3741—3745, 3747, 5438—5443, 5623.)

"Iris dark brown with orange outer ring (blackish, blackish brown, with brownish yellow, orange, or orange-yellow ring), feet blackish grey (dark ash-grey, bright grey, olive-black), bill vermilion."

Some specimens have single orange and yellow feathers on the throat and crown.

T. h. haematodus is only known from Timor, Wetter and Roma; *T. h. fortis* only from Sumba.

60. **Trichoglossus haematodus rubritorquis** Vig. & Horsf. (? introduced).

Trichoglossus rubritorquis Vig. & Horsfield, *Trans. Linn. Soc. Lond.* xv. p. 291 (1826: Australia).

2 ♀ ad., Kisser, 10. v. 1901. (Nos. 4034, 4035.) "Iris orange-red with brown inner ring, feet pale olive-grey, bill vermilion."

The occurrence of this form, quite typical, only known from North-West Australia, on Kisser is very remarkable. It is, in my opinion, not possibly a regular inhabitant of Kisser, but probably brought there by men, or else reached the island as an exceptional visitor. It is, however, still more remarkable that we have a specimen from Roma, which is intermediate between *T. h. haematodus* and *rubritorquis*, though much closer to the latter. It was shot on Roma on July 17th, 1902, and marked ♂, No. 5142. "Iris dark brown with pale orange outer ring, feet olive-grey, bill vermilion." It is underneath everywhere like *rubritorquis*, the head is as blue as that of *rubritorquis*, only the hinder part of the crown is green, the collar on the hind-neck is yellow as in *haematodus*, only partly orange-red laterally, the upper back has the orange-red bases of *rubritorquis*, and is partially blue, partially green. What is now the explanation of this bird? Can it be an aberration of *T. h. haematodus*? According to its plumage, it is more likely a sport of *rubritorquis*; but how does that get to Roma? Or is it a hybrid of *T. h. haematodus* and *rubritorquis*? If we accept that theory, there remains the same question—How did *rubritorquis* get to Roma?

61. **Trichoglossus euteles** (Temm.).

Psittacus euteles Temminck, *Pl. Col.* 568 (1835: Timor).
Trichoglossus euteles Finsch, *Notes Leyden Mus.* xxii. p. 286 (Letti, Wetter, Babber, Kisser).
(The genera *Trichoglossus* and *Psitteuteles* are inseparable. I quite agree with Dr. Finsch in this respect. Cf. *Bull. B. O. Club*, October 1903.)

I have tried to separate the birds from the various islands, but have not succeeded. The specimens from Wetter are rather small and their heads very greenish, but they are apparently not very old, and similar birds are common on several of the other islands. The bills of very young birds are tinged with brown.

20 ♂♀, Kisser, April, May 1901. (Nos. 3893—3900, 3944—3947, eight without numbers.)

Some of these birds have wide dark green tips to the feathers of the sides of the abdomen, forming distinct bars. Similar specimens were sent from other islands, but not frequently.

14 ♂♀, Wetter, 14. iv. 1901 (Nos. 3765—3767, three without numbers), September, October 1902 (Nos. 5520, 5521, 5526, 5624, 5756, 5757, two without numbers).

The variations in the colour of the crown are very strange. Some (? oldest

birds) have it bright olive-yellow, others olive-green, others again (younger birds) green.

6 ♂♀, Moa, November—December 1902. (Nos. 6215—6217, 6311, 6312, 6313.)

8 ♂♀, Letti, November 1902. (Nos. 5896—5903.)

Among these are the finest males, with olive-yellow crown and partly yellow abdomen.

16 ♂♀, Roma, July 1902. (Nos. 5131—5140, six without numbers.)

"Iris in adult birds orange (pale or reddish orange, pale sienna red, in the brightest yellow ♂, No. 5900, Letti, vermilion), in young birds (Wetter, etc.) greyish brown (brown, dark brown, greyish ochreous), bill vermilion (orange), in young birds dirty orange (pale orange), feet greyish, brownish.

62. **Neopsittacus iris** (Temm.).

Psittacus iris Temminck, *Pl. Col.* 567 (1835 : Timor).
Trichoglossus iris Finsch, *Notes Leyden Mus.* xxii. p. 287 (Wetter).

While fully agreeing with Dr. Finsch in uniting the pseudogenus *Psitteuteles* with *Trichoglossus*, I cannot follow him in also putting into *Trichoglossus* the very different *Neopsittacus iris*. These birds do not have the elongated tail of *Trichoglossus*, and have a rather different bill (cf. Salvadori, *Cat. B.* xx.). As far as I can see at present, the genus *Neopsittacus* is well founded.

N. iris differs from *N. rubripileum* in being considerably larger (wing 122—131 mm. against 110—120 in *N. rubripileum*), in having the sides of the head generally more greenish, the patch behind the eyes as a rule more purplish, the hinder parts of the pileum with wide blue tips to the feathers, which are sometimes obsolete, while they are absent or greenish in *N. rubripileum*. No doubt the two forms will be found to represent each other in various parts of Timor, though their distribution is at present not clear.

All the Wetter specimens are typical *iris*.

16 ♂♀, Wetter, September 1902. (Nos. 5527—5536, six without numbers.)

"Iris orange-red (burnt-sienna red, yellowish orange), bill pale orange, yellow below, feet ash-grey."

63. **Geoffroyus personatus personatus** (Shaw).

Psittacus personatus Shaw, *Gen. Zool.* viii. 2, p. 544 (1811 : ex Levaillant, "Nouvelle Hollande." I accept Timor as the typical locality).
Geoffroyus personatus Finsch, *Notes Leyden Mus.* xxii. p. 287 (Timor and Wetter).

Dr. Finsch, *l.c.*, declares that neither coloration nor size offers anything constant to separate *G. p. floresianus*, *sumbacensis*, and *tjindanae* from typical *personatus*. This statement is very surprising, and undoubtedly incorrect. Mr. Rothschild and I have (*Nov. Zool.* 1901, p. 83) stated the differences of these forms, and I can add that the *female* of *G. p. personatus* has never (judging from seven specimens) a red-brown head, as found in the *females* of *floresianus*, *sumbacensis* and *tjindanae*. In every way *G. p. personatus* is most distinct (smallest, lightest, the blue in the *male* not covering the nape), while *floresianus*, *sumbacensis* and *tjindanae* are darker and larger, the blue reaching farther down, covering the whole nape. It is true that *tjindanae* is in colour exactly like *G. p. sumbacensis*, but the wing is distinctly longer (11 specimens examined). *G. p. sumbacensis* differs from *floresianus* in being generally lighter, the under

wing-coverts slightly lighter, size similar or a little larger. This form is certainly not easy to distinguish, and if one is anxious to lump, *sumbavensis* and *tjindanae* might be united with *floresianus*; but we do not advocate such work, and in no case whatever can these forms be said to be the same as *G. p. personatus* from Timor and Wetter.

8 ♂♂, 5 ♀♀, Wetter; April 1901 (Nos. 3761, 3762, 3763), September, October 1902 (Nos. 5473, 5474, 5595, 5596, 5758—5760, three without numbers). ♂: "Iris sulphur yellow (whitish yellow), bill vermilion with yellowish tip, blackish brown below, feet bright grey." ♀: "Iris whitish sulphureous (whitish yellow), bill dull black (blackish), feet bright grey."

64. **Ptistes jonquillaceus wetterensis** Salvad.

[*Psittacus jonquillaceus* Vieillot, *Nouv. Dict.* xxv. p. 352 (1817: New Holland, errore. I accept Timor as the typical habitat).]

Ptistes wetterensis Salvadori, *Cat. B. Brit. Mus.* xx. p. 484 (1891: Wetter).

Platycercus jonquillaceus Finsch, *Notes Leyden Mus.* xxii. p. 291 (Timor and Wetter—errore).

The Wetter form must be distinguished subspecifically, as in the very adult *males* even the upper wing-coverts remain about as green as the back, while in the adult *males* of *P. j. jonquillaceus* the upper wing-coverts (except those nearest the shoulder-bent) are greenish golden yellow. The *females* of the latter also have a slightly more yellow tinge on the upper wing-coverts, and the adult *males* have generally a conspicuously larger red patch on the wings. On the whole *P. j. jonquillaceus* is slightly larger, wing about 1 cm. longer. When comparing wrongly—*i.e.*, ♀ of one form with ♂ of another, young with old, and so on, one can deny these subspecies, but not otherwise.

I have compared 13 Wetter specimens with 6 from Timor. Mr. Kühn sent:

12 ♂♀, Wetter, September, October 1902. (Nos. 5444—5450, 5537, 5547, 5698, three without numbers.)

"Iris dirty yellowish brown (orange, burnt-sienna red, ochreous brown, dull yellowish brown, coffee-brown), bill orange or bright vermilion, tip and underside more yellowish, feet blackish."

A *female* of *Cacatua goffini* (Finsch) was shot on Kisser, but Mr. Kühn remarked on the label: "Does not occur here, probably escaped from a passing ship."

CORACIIDAE.

65. **Eurystomus orientalis australis** Sw.

Eurystomus australis Finsch, *Notes Leyden Mus.* xxii. p. 280 (Wetter).

8 ♂♀, Moa, November, December 1902. (Nos. 6126, 6127, 6224—6226, 6314, 6315, 6411.)

2 ♂♀, Letti, November 1902. (Nos. 6092, 6472.)

2 ♀♀, Kisser, April, May 1901. (Nos. 3953, 4036.)

1 ♂, Wetter, 29. x. 1902. (No. 6100.)

ALCEDINIDAE.

66. **Alcedo ispida floresiana** Sharpe.

Alcedo floresiana Sharpe, *Cat. B. Brit. Mus.* xvii. p. 151 (1892: Flores).

On p. 25, *Nov. Zool.* 1903, I gave a key to distinguish the familiar races of *Alcedo ispida*. This key holds good for the majority of specimens, but occasionally

specimens of *A. i. floresiana* are found which have the ear-coverts so much mixed with black that they cannot be separated from *A. i. hispidoides*, among which, on the other hand, individuals with the ear-coverts greatly mixed with rufous are not quite uncommon, though not frequent enough to throw doubt on the validity of the two forms.

On Wetter and Roma typical *A. i. floresiana* is common, only specimens 5180 and 5341 have unusually dark ear-coverts and closely resemble *A. i. hispidoides*.

6 ♂♀, Roma, July, August 1902. (Nos. 5074, 5075, 5180, 5324, 5341, 5389.) "Iris dark coffee-brown, bill in the *males* entirely black, in the *females* the upper jaw black, lower red (coral red), feet coral red (vermilion)."

2 ♂♂, 2 ♀♀, Wetter, September, October 1902. (Nos. 5501, 5622, 5679, 5680.) Soft parts as in the Roma specimens.

67. **Alcyone azurea yamdenae** Rothsch.

Alcyone azurea yamdenae Rothschild, *Bull. B. O. C.* xi. p. 65 (Yamdena, Timorlaut Is.).

♂♀, Roma, 24. vii. 1902. (Nos. 5289, 5290.) "Iris dark coffee-brown (blackish brown), feet coral red, bill black."

I believe these two birds must belong to the same form as the Tenimber (Timorlaut) bird, *A. a. yamdenae*. It is true that they are larger, wing fully 75 mm., thus being as large as *A. a. pulchra* from North Queensland, and that the tip of the bill is not so largely and conspicuously brownish rufous, but the purplish colour on the sides extends downwards to the flanks, and the coloration is altogether very rich. More material should be examined from the Tenimber group and from Roma.

68. **Halcyon sancta** Vig. & Horsf.

Halcyon sancta Vig. & Horsfield, *Trans. Linn. Soc. Lond.* xv. p. 206 (1826: Australia).

1 ♂, 2 ♀♀, Kisser, April, May, June 1901. (No numbers.)

5 ♂,♀, Wetter, October 1902. (Nos. 5621, 5839—5841, 5870.)

♂♀, Roma, July 1902. (Nos. 5071, 5215.)

♂, Letti, 7. xi. 1902. (No. 5972.)

69. **Halcyon australasia australasia** (Vieill.).

Alcedo australasia Vieillot, *Nouv. Dict. d'Hist. Nat.* xix. p. 419 (1818: no locality given, but in *Enc. Méth.* i. p. 397 said to be from Australia! This is an error, and Timor, the oldest known locality, must be accepted as the typical habitat).

Halcyon australasiae Finsch, *Notes Leyden Mus.* xxii. p. 281 (Syn. partim!—Wetter).

The same form which inhabits the islands of Timor, Lombok, and Sumba (not yet recorded from, but doubtless found on, Sumbawa) occurs also on Wetter and Roma.

2 ♂♂, 3 ♀♀, Roma, July, August 1902. (Nos. 5178, 5179, 5321—5323.)

4 ♂♂, 4 ♀♀, Wetter, September, October 1902. (Nos. 5482—5487, 5625, 5626.) "Iris dark coffee-brown, feet dark grey, upper bill black, under bill white with blackish tip."

70. **Halcyon australasia interposita** subspec. nov.

Differs from its nearest ally *Halcyon australasia dammerimana* by a paler cinnamon-buff crown, hindneck and underside: the bluish-green patch in the middle

of the crown, which is small or large (though always smaller than in *H. australasia australasia*) in *H. a. dammeriana*, is never large, but only small or almost and sometimes quite (in four out of eleven) absent. Kühn found this form on Letti and Moa; and, judging from Dr. Finsch's note (*Notes Leyden Mus.* xxii. p. 282), the form from Babber, which he quotes as *H. a. dammeriana*, must belong to *interposita*. (Type of *H. a. interposita*, No. 6281, H. Kühn coll., Moa, 2. xii. 1902, ♂.)

♂ ♀, Letti, 27. xii. 1902. (Nos. 6504, 6505.)

6 ♂♂, 3 ♀♀, Moa, November, December 1902. (Nos. 6211—6213, 6247—6249, 6281, 6282, 6283.)

"Iris dark coffee-brown, bill above black, lower mandible white with blackish tip, feet dirty (blackish) grey."

We are thus now acquainted with four forms of *H. australasia*:—

1. *H. australasia australasia* (Vieill.). Of larger size, whole pileum green, cinnamon portions of plumage deep and rich. Timor, Lombok, Sumba, Wetter, Roma.

2. *H. australasia dammeriana* Hart. (*Nov. Zool.* 1900, p. 19). Same size, only a patch in middle of pileum blue, cinnamon parts as rich as in *H. a. australasia*. Dammer.

3. *H. australasia interposita* Hart. About same size, only small patch in middle of pileum blue, sometimes reduced to absence, cinnamon colour paler. Moa and Letti, ? Babber.

4. *H. australasia minor* A. B. Mey. Smaller, almost whole pileum blue, size less. Timorlaut.—It is a mistake to unite this form with *H. a. australasia*. Not only is the size less (wing about 1 cm. shorter), but the cinnamon colours are also much paler, apparently still paler than in *H. a. interposita*; but only four specimens have been examined by me. Dr. Finsch (*Notes Leyden Mus.*, xxii. pp. 281, 282) attempts to show by measurements that *H. a. minor*, of which he had no specimens, is not smaller than *H. a. australasia*. His method, however, is most objectionable, as he measures the specimens of *H. a. australasia* himself, and quotes those of *H. a. minor* as given by Meyer. This is apt to lead to erroneous conceptions, because two ornithologists do not, as a rule, measure equally. Moreover, the measurements thus confronted by Dr. Finsch do not conclusively prove that *H. a. minor* is of the same size as *H. a. australasia*; for of the former he quotes the wing 72—76, tail 50—52, bill 37—38 mm.; of the latter the wing 77—87, tail 53—61, bill 33—42 mm.—always a much larger average. Had all the specimens been measured by one person the differences would be more conspicuous. The geographical distribution also demands differences of the Timorlaut form, as between it and the typical *H. a. australasia* another form (or other forms) is (or are) found—*i.e. H. a. interposita* (and *H. a. dammeriana*).

71. Halcyon chloris chloris (Bodd.).

Alcedo chloris Boddaert, *Tabl. Pl. Enl.* p. 49 (Pl. 783, 2) (1783, ex Buffon (locality on plate erroneously Cape of Good Hope, but Buffon states that the correct locality is Buru), and Latham (locality Buru). Typical habitat: Buru!

Halcyon chloris, Finsch, *Notes Leyden Mus.* xxii. p. 280 (Wetter, Kisser, Babber, Letti).

The treatment of the *chloris* group of *Halcyon* in the *Cat. B. Brit. Mus.* xvii. is certainly very unsatisfactory, because it is split up into several species and subspecies. It must either be united under one name (a very simple method, but

not very scientific) or separated into a number of subspecies, each with a different geographical distribution (a very difficult and tedious treatment, but surely more scientific, though at present not approaching full exactness and finality). What I can least understand is why "*Halcyon darisoni*," the Andaman race, should be a subspecies of "*humii*" and not of *chloris*, and why these two are separated from *chloris* by *sordidus*, the more than doubtful *forsteni*, *solomonis*, and *surensis*. Surely all these, as far as separable at all (also *sordidus*) are subspecies of *chloris*. There are frequent intermediate colorations between "*humii*" and *chloris* in the same countries!

At present I can recognise the following facts :—

1. Specimens from the Moluccan Islands: Buru, Batjan, Tukan-Besi Islands, Key Islands, South-East Islands, Banda, Tenimber (Timorlaut) Islands, Dammer, South-West Islands (Roma, Wetter, Letti, Kisser), Alor, the Timor group to Lombok, are generally (though not always) larger, have the ear-coverts more or less distinctly blackish, and connected with a wide blackish nuchal collar, the upperside somewhat duller and often rather darker greenish, the wings more blue, and thus more in contrast with the back, the crown very frequently tinged with brownish. As a rule the *females* are more brownish on head and back and have the ear-coverts purer black; but there are exceptions, unless some specimens are wrongly sexed by the collector. This form is the *Halcyon chloris chloris* (Bodd.).

2. Specimens from the Greater Sunda Islands (Java, Borneo, Sumatra), the Malay Peninsula, and the Philippines are generally (though not always) smaller, have the ear-coverts greenish like the crown, or a little darker, but hardly ever blackish, are above more uniform and somewhat lighter greenish, the wings less in contrast with the back; only a narrow blackish nuchal collar, or sometimes none at all. The *females* seem to be also duller, more brownish above, with generally darker ear-coverts. This form must be called *Halcyon chloris collaris* (Scop.).*

3. Some specimens from the Pelew Islands, collected by Kubary, are, as far as I can see, perfectly similar to Philippine *H. chloris collaris* (Scop.).

4. Specimens from the Abyssinian coast (Arafali, Dankali) are very close to *H. chloris collaris*, but are a shade more uniform above and a shade duller; the tips of the wings, especially the tips of the inner webs of the primaries, are less blackish, but more pale greenish, the outside of the wings not bluish. There is no black nuchal collar, the ear-coverts are green; but while the differences in the *males* are very slight, the *females* differ more, being strikingly different from the *males*; the upper surface dull olive, the tail of a very pale, faint green. The name of this form is of course *Halcyon chloris abyssinica* (Licht.).

5. In one place only that we know of—*i.e.*, in the Talaut Islands, north of Celebes—occur two forms, rather large ones and small ones, both alike in colour. What is the meaning of this? The difference is very great, and there are evidently no intermediate examples. Messrs. Meyer & Wiglesworth (*Birds of Celebes* i., pp. 293—295) came to the conclusion that the small specimens from Talaut were "young and not full-grown." This conclusion is erroneous. The young *H. chloris* is not "similar to the adult in coloration, recognisable as young

* *Alcedo collaris* Scopoli, *Del. Flor. et Faun. Insubr.* ii. p. 90, 1788, ex Sonnerat, Mart. pech. à collier blanc des Philippines—typ. hab. Philippines! No doubt all the birds from the Philippines and Sunda Islands as far east of Java belong to this form, and, I think, also those from Celebes, though the Celebes birds are oscillating, sometimes more like typical *chloris*. Those from the Malay Peninsula may have to be separated, as among them occur the curious blue so-called *humii*. Andaman birds appear to be quite similar, and also those from the Sunderbunds.

by the small bill only," as Messrs. Meyer & Wiglesworth believed. Young birds have the feathers of the forehead edged with buff, the upper wing-coverts edged with buff, the feathers of the white collar, sides of throat, breast and abdomen, and the whole breast fringed with blackish brown, the latter also tinged with fulvous. Moreover, the bill is not only shorter, but differently shaped, the culmen less distinctly ridged, more rounded, the whole bill clumsier, less pointed in appearance, because not so long and yet thick at base. Nothing of all this is seen in the small Talaut birds, and I cannot understand how Messrs. Meyer & Wiglesworth could conclude that they were young, after first believing that they were "a race of *Halcyon sancta*." I can find only four specimens among our 237 examples which closely approach and partly reach the small Talaut birds in either bill or wing measurements. The eight **perfectly adult** small birds from Talaut (partly Cursham coll. and partly taken by Waterstradt's native collectors) have the bills 35—40 mm. long, against 45—50 mm. in normal *H. chloris*, the wing 94—98 mm. against 108—120 mm. in typical normal *H. chloris*. Whether this small form on Talaut is a geographical representative of *chloris* (though both are found on Talaut, one might only breed there, the other be an occasional immigrant), or a perfectly developed species co-existing with typical large *chloris*, or a local aberration—for it is only known on Talaut,—it will be desirable to have a name for it, and I therefore name it herewith :

Halcyon enigma nom. nov.

Type: ♂ ad., Lirong, Talaut, April 1897, John Waterstradt's natives coll. No. 143 t.

6. *Halcyon sordidus* is also nothing more than a subspecies of *chloris*, being closely approached by some *females* of true *chloris* ; and so is, of course, my *colonus*, which is just a small edition of *sordidus* with different distribution.

Mr. Kühn sent the following very typical *H. chloris chloris* from the South-West Islands :—

5 ♂♀, Kisser, April—May 1901. (Nos. 3912, 3963, 4048, two without numbers.)

14 ♂♀, Roma, July, August 1902. (Nos. 5072, 5177, 5073, 5177, 5213, 5214, 5321, the rest without numbers.)

1 ♂, Letti, 18. xii. 1902. (No. 6512.)

6 ♂♀, Wetter, October 1902. (Nos. 5619, 5620, 5854—5856, 5874.)

5 ♂♀, Moa, November, December, 1902. (Nos. 6209, 6210, 6326, 6345, 6413.)

CUCULI.

72. **Chrysococcyx rufomerus** Hart. (?).

Chrysococcyx rufomerus Hartert, *Nov. Zool.* vii. p. 21 (1900 : Dammer).
Chalcococcyx innominatus Finsch, *Notes Leyden Mus.* xxii. p. 94 (1900 : Kisser).

It is not easy to unravel the different supposed species of *Chrysococcyx*. Dr. Finsch and I described almost simultaneously (though my article appeared apparently at least a month earlier) a form which we named *rufomerus* resp. *innominatus*, from Dammer and Kisser, Finsch from a single specimen, I from a series of nine. I have no doubt that we have both described the same bird, for we both refer to the very dark pileum, wider dark barring of the underside, and absence of rufous-cinnamon in the tail. Now we have received

a series from Roma, Wetter, and Letti, twenty-five specimens in all. They are as puzzling as they can be. The majority from Roma and Letti agree perfectly with my *rufomerus*, but three from Wetter and some few from the other islands have the second rectrix on the inner web almost entirely rufous-cinnamon or for a great part of that colour. I would be willing to consider them more or less immature, as they do not seem quite adult (?), and there are intermediately coloured ones between them and those looking exactly like *rufomerus*. But there is one objection to this: our very young birds (without bars below) from Dammer have no rufous at all or only a trace of it in the tail. What have we now to conclude? I think these birds with rufous in the tail must belong to the same form as the adult ones looking like *rufomerus*, because the markings in the tail are absolutely the same; they cannot well be *poecilurus* (which Dr. Finsch records from Wetter), as that form has the outer rectrix differently marked—at least, all those before me. Are these birds the same as those from Dammer? If not, we should have two forms only distinguishable by their young, which is not probable!

(A) Form from Dammer: above very dark, bars below somewhat wide, no rufous in tail in adult and young: *rufomerus*.

(B) Form from Roma (Wetter?) and Letti: adult like that of *rufomerus*, younger birds with much rufous in the tail, first plumage not known. Probably the same as the Dammer form. The Kisser bird (*innominatus* Finsch) might belong to the Dammer one rather than to the Roma form?

(C) Form from the Malay Peninsula, Sumatra, Java, Borneo, Philippines, and Celebes: differs from (A) and (B) in the adult birds not losing the rufous in the tail, bars below generally narrower: *malayanus* Raffl.

(D) Form from North Australia, parts of New Guinea, etc., Aru, to Timor: with a great amount of rufous-cinnamon in the tail, even the outermost rectrix not without that colour: *poecilurus*.

C. basalis is very different. It has much rufous in the tail, is large and pale, the middle of the abdomen unbarred.

C. plagosus is also a large bird, but more widely barred below, with no rufous in the tail.

C. lucidus is merely a southern form of it and very much like the latter.

Of the bird I now call *C. rufomerus* Mr. Kühn sent the following specimens:—

2 ♂♂, Moa, 20, 30. xi. 1902. (Nos. 6255, 6308.) These two birds are like the adult Dammer birds, with wide bars below and hardly a shade of rufous on the edges of the white patches on the second rectrix.

3 ♂♂, 1 ♀, Moa, November, December 1902. (Nos. 6309, 6310, 6391, 6392.) These four birds have narrower bars underneath and more or less, but mostly, a large amount of rufous in the tail.

4 ♂♂, Roma, August 1902. (Nos. 5334, 5354, 5368, 5368A). These birds have no rufous at all in the tail.

2 ♂♂, 2 ♀♀, Roma, August 1902. (Nos. 5029, 5332, 5333, 5335.) With more or less (much to almost none) rufous-cinnamon in the tail, bars hardly narrower.

4 ♂♂, Letti, December 1902. (Nos. 6431, 6433, 6435.) Without rufous in the tail, bars below wide.

1 ♂, Letti, 4. xi. 1902. (No. 5981.) Without rufous in the tail, but bars narrower, upper wing-coverts with pale edges (? immature). This specimen and

No. 5368A from Roma have the throat white, unbarred, all the others having bars across the throat.

1 ♂, Letti, 3. xi. 1902. (No. 5982.) Widely barred as in the (supposed) most adult birds, very dark above, but the inner webs of the rectrices (except those of the outermost and innermost pairs) mostly cinnamon-rufous.

1 ♂, 2 ♀♀, Letti, November, December 1902. (Nos. 5983, 6056, 6434.) These three birds have the upperside paler, somewhat more greyish, more narrowly barred underside and much rufous in the tail.

3 ♂♂, Wetter, 18. iv. 1901, 30. ix. 1902. (Nos. 3773, 5567, 5677.) Somewhat pale above, the inner rectrices (except the central) with much rufous, mostly almost quite rufous, bars not narrow.

"Iris varies (not in connection with the various plumages) from greyish brown to chocolate and dark scarlet, eyelids vermilion. Bill black, base of mandible greyish. Feet dark grey (greyish black)."

73. **Chrysococcyx plagosus** (Lath.).

Cuculus plagosus Latham, *Ind. Orn. Suppl.* p. xxxi. (1831 : Australia).

1 ♀ (?), Wetter, 4. x. 1902. (No. 5678.) "Iris greyish brown, eyelids yellowish, feet plumbeous, bill black." Very typical, very widely barred underneath, no rufous in the tail.

74. **Cacomantis variolosus** (Horsf.).

Cuculus variolosus Horsfield, *Trans. Linn. Soc.* xv. p. 300 (1826 : Australia).

1 ♀ juv., Kisser, 20. v. 1901. (No. 4062.)

75. **Misocalius palliolatus** (Lath.).

Cuculus palliolatus Latham, *Ind. Orn. Suppl.* ii. p. xxx. (1801 : Australia).

1 ♀ ad., Roma, 30. vii. 1902. (No. 5336.) "Iris black, bill black, feet dark grey."

76. **Cuculus saturatus** Blyth.

Cuculus saturatus Blyth, *Journ. As. Soc. Beng.* xii. p. 942 (1843 : ex Hodgson MS.).

Mr. Kühn sent six skins from Moa :

2 ♂ ad., 2 ♂ immat., 1 ♀ immat., 1 ♀ juv., Moa, November, December 1902. (Nos. 6288—6291, 6405, 6406.)

77. **Eudynamis orientalis everetti** Hart.

Eudynamis cyanocephala everetti Hartert, *Nov. Zool.* 1900, p. 231 (Typical locality : Sumba).
Eudynamis orientalis everetti Hartert, *ibid.* 1903. p. 237 (Sumba, Timor, Alor, Wetter, Moa, Key and S.E. Islands).
Eudynamis cyanocephalus (non Latham !) Finsch, *Notes Leyden Museum* xxii. p. 283 (Wetter).

1 ♂ ad., 1 "♀," Wetter, October 1902. (Nos. 5766, 5830.)

"♂♀, Iris scarlet, feet plumbeous, bill greenish horn-colour."

1 ♀, Moa, 4. xii. 1902. (No. 6293.)

78. **Centropus javanicus** (Dumont). (Cf. *Nov. Zool.* 1903, p. 24.)

Centropus bengalensis Finsch, *Notes Leyden Mus.* xxii. p. 284 (Letti, Wetter).

2 ♂ ad., 1 ♀ ad., 1 juv., Kisser, April—June 1901. (Nos. 3949, 3950, 4122, 4122 A.)

3 juv., Letti, November, December 1902. (Nos. 5969, 6473, 6477.)
1 ♀, juv., Moa, 6. xii. 1902. (No. 6292.)
2 juv., Wetter, September, October 1902. (Nos. 5696, 5697.)
6 juv., Roma, July, August 1902. (Nos. 5126, 5250, 5347—5350.)

MEROPIDAE.

79. **Merops ornatus** Lath.

Merops ornatus Latham, *Ind. Orn. Suppl.* p. xxxv. (1811 : Australia).

5 ♂♀ ad., in fine plumage, Kisser, April—June 1901. (No numbers.)

2 ♂♀ ad., very worn, 4 juv., without black praepectoral patch, in first plumage, Moa, November 1902. (Nos. 6133—6137, 6163.)

7 ♂♀ ad., in fine plumage, Wetter, September, October 1902. (Nos. 5519, 5642—5645, 5654, 5687.)

29 ♂♀ ad., in good plumage, Roma, July—August 1902. (Nos. 5099, 5175, 5255—5261, twenty without numbers.)

3 ♂ juv., in first plumage, Letti, November—December 1902. (Nos. 5979, 6462, 6463.)

CAPRIMULGIDAE.

80. **Eurostopus argus** Hart.

Eurostopus argus (ex Rosenberg nom. nud.) Hartert, *Cat. B. Brit. Mus.* xvi. p. 608 (Australia, Aru Is. : typ. loc. Aru Is., ex Rosenberg).

1 ♂ad., Roma, 16. vii. 1902. (No. 5127.) "Iris black, bill black, feet reddish brown."

81. **Caprimulgus affinis** Horsf.

Caprimulgus affinis Horsfield, *Trans. Linn. Soc.* xiii. p. 142 (1821 : Java) ; Finsch, *Notes Leyden Mus.* xxii. p. 279 (Kisser).

3 ♂♂, 1 ♀, Kisser, May, June 1901, September 1902. (Nos. 3965, 3966, 4068, 5822.)

82. **Caprimulgus manillensis celebensis** Grant.

Caprimulgus celebensis Grant, *Ibis* 1894. p. 519 ; Hartert, *Ibis* 1896. p. 371 ; Hartert, *Tierreich Lief.* i. p. 53 (1897) ; Meyer & Wiglesworth, *B. Celebes* i. p. 320. Pl. XI.
Caprimulgus manillensis Finsch, *Notes Leyden Mus.* xxii. p. 279 (Wetter).

The southern form of *C. manillensis* is so closely allied to *C. manillensis manillensis* that it is best treated as a subspecies of the latter. It differs only in the white tips to the lateral rectrices in the adult *males* occupying both webs and being generally larger, the barring on the abdomen being generally coarser, and generally, but not always, the rictal bristles being somewhat longer and stronger. The immature birds, and apparently females, are hardly separable from *manillensis* without comparing several specimens. Besides Celebes (whence only two examples are known at present) this form is only known from Wetter, where Schädler got one *female*, recorded by Finsch as *manillensis*. Mr. Kühn sent :

1 ♂, 1 ♀, Wetter, October 1902. (Nos. 5777, 5847.) "Iris ♂ dark reddish brown (♀ dark brown), feet ♂ pale brown (♀ dull brown-red), bill black, brownish below."

The ♂ has the lateral rectrices white on both webs for over 3 cm., but some Philippine examples (No. A. 258 North Luzon, John Whitehead coll.) have nearly as much white, and only part of the tip of the outer web brown. The ♀ has the tip of the outer web of the lateral rectrices grey-brown, only buffy-white near the shaft, the inner white for 2¼ cm.

CYPSELIDAE.

83. **Collocalia esculenta neglecta** Gray.

Collocalia neglecta Gray, *Ann. and Mag. Nat. Hist.* xvii. p. 121 (Timor).
Collocalia neglecta Finsch, *Notes Leyden Mus.* xxii. p. 279 (Kisser and Wetter).

I think now that *C. neglecta* is best treated as the Timorese representative of *C. esculenta*. It differs from it at a glance by the colour of the upperside, which is not steel-blue, but brown-black with a greenish-blue gloss, in fresh plumage with conspicuous, in worn plumage indistinct or invisible whitish fringes to the feathers. Mr. Kühn sent:

2 ♂ ad., 2 ♀ ad., 2 pull., Kisser, April—May 1901. The young birds are paler, more greyish black, the whitish edges more conspicuous.

8 ♂ ♀, Wetter, October 1902. (Nos. 5581—5588.)

7 ♂ ♀, Roma, August 1902. (Nos. 5359—5365.)

Two nests from Wetter are entirely composed of a kind of olive greyish lichen, while one from Roma consists of black hair-like palm fibre with a few pieces of yellowish-green lichen. They are thus utterly inedible.

HIRUNDINIDAE.

84. **Hirundo rustica gutturalis** Scop.

Hirundo gutturalis Scopoli, *Del. Flor. et. Faun. Insubr.* ii. p. 96 (1786: New Guinea).

One adult bird (No. 5590) shows the red widely interrupting the dark pectoral band, others (more or less immature) show an almost complete band.

8 ♂ ♀, Wetter, October 1902. (Nos. 5590, 5860—5865.)

85. **Hirundo javanica** Sparrm.

Hirundo javanica Sparrman, *Mus. Carls.* ii. Taf. 100 (1789: Java); Finsch, *Notes Leyden Mus.* xxii. p. 274 (Kisser).

10 ♂ ♀, Kisser, May, June 1901, September 1902. (Nos. 4020—4024, 5815—5818, 5820.)

1 ♂, Wetter, 6. x. 1902. (No. 5591.)

1 ♂, Roma, 8. viii. 1902. (No. 5401.)

2 ♂ ad., 1 ♂ immat., Letti, November, December 1902. (Nos. 5977, 5978, 6436.)

1 ♂, 2 ♀ ♀, Moa, November, December 1902. (Nos. 6159, 6160, 6333.)

86. **Hirundo daurica striolata** Temm. & Schl.

Hirundo striolata Temm. & Schlegel, *Fauna Japonica, Aves*, p. 33 (1850: Java).

3 ♂♂, 1 ♀, Wetter, October 1902. (Nos. 5589, 5664, 5665, 5722.) "Iris blackish brown, bill and feet blackish."

87. **Petrochelidon nigricans** (Vieillot).

Hirundo nigricans Vieillot, *Nouv. Dict. d'Hist. Nat.* xiv. p. 523 (1817: New Holland).

1 ♂, 1 ♂? Roma, August 1902. (Nos. 5366, 5383.) "Iris, feet and bill blackish."

MUSCICAPIDAE.

88. **Muscicapa griseisticta** (Swinh.).

Hemichelidon griseisticta Swinhoe, *Ibis* 1861 p. 330 (China: terra typica Amoy).

1 ♀, Wetter, 22. x. 1902. (No. 5838.)
1 ♀, Letti, 10. xi. 1902. (No. 5980.)

89. **Cyornis hyacinthina kühni** subspec. nov.

[*Muscicapa hyacinthina* Temminck, *Pl. Col.* xxx. (Timor, Mus. Paris).]
Cyornis hyacinthina Finsch, *Notes Leyden Mus.* xxii. p. 261 (Wetter—errore).

♂ like the ♂ of *C. hyac. hyacinthina*, but the forehead and feathers above the eye of a very different colour: not of a bright blue with a slight purplish tinge, but light sky-blue with an almost whitish tinge; ear-coverts lighter, more blue, wing-coverts and outer edges of quills also different, of a much lighter blue: abdomen a shade darker rufous cinnamon. ♀ like that of *C. hyac. hyacinthina*, but lines across forehead and lores to above the middle of the eye rufous-cinnamon like the underside, which is a shade darker than in the Timor form. Dimensions similar.

Type ♂ No. 5467, Wetter, 24. ix. 1902. Kühn coll. (Mus. Tring).

Mr. Kühn, who discovered this fine subspecies, and in whose honour it is named, sent

9 ♂♂, 7 ♀♀, Wetter, September, October 1902. (Nos. 5467, 5468, 5574—5576, 5669, 5670, 5736, 5737, seven without numbers.)

♂♀. "Iris dark coffee-brown (blackish brown), bill black, feet blackish."

This is a very pretty discovery, upon which Mr. Kühn may be congratulated. To the majority of ornithologists it will still be a "good species," but from a modern point of view it is a "subspecies." Dr. Finsch noticed the cinnamon-rufous forehead and lores, but he could not separate this form, as he had only two young birds from Wetter. The true *hyacinthina* is only found on Timor and Semao.

90. **Muscicapula melanoleuca westermanni** Sharpe.

[*Muscicapula melanoleuca* Blyth, *Journ. As. Soc. Beng.* xii. p. 409 (1843: "Nepaul, Darjeeling")]
Muscicapula westermanni Sharpe, *P. Z. S.* 1888, p. 270 (Perak).

(Cf. Hartert, *Nov. Zool.* 1902. p. 551.)
4 ♂♂, 1 ♀, Wetter, October 1902. (Nos. 5646, 5832—5834, 5876.)

91. **Gerygone everetti wetterensis** Finsch.

Gerygone wetterensis Finsch, *Notes Leyden Mus.* xx. p. 132 (1898: Wetter); id., *op. cit.* xxii. p. 252. pl. IV. fig. 2.

Differs from *G. e. everetti* only in the lesser extent of the black subapical portion in the tail, and even that runs very close in some specimens. The extent of the white is **not** always less in extent, extending on the outer pair over both webs in both forms.

4 ♂♂, 3 ♀♀, Wetter, September, October, 1902. (Nos. 5635, 5671, 5672—5675, 5843). "Iris brownish white (pale ochreous, whitish ochreous), feet blackish, bill black."

All our specimens are alike. They agree with Dr. Finsch's description and have a yellow wash on the sides of the abdomen, though they are fully adult.

92. **Gerygone kisserensis kisserensis** Finsch.

Gerygone kisserensis Finsch, *Notes Leyden Mus.* xx. p. 133 (1898; Kisser); id., *op. cit.* xxii. p. 253, Taf. iv. fig. 1, figura mala.

4 ♂♂, 4 ♀♀, Kisser, April—June 1901. (Nos. 3840, 3856, 3940, 4069, 4070, 4072, 4112, 4113.)

11 ♂♂, 8 ♀♀, Moa, November, December 1902. (Nos. 6108—6110, 6168—6176, 6264; the rest without numbers.)

4 ♂♂, 4 ♀♀, Letti, November, December 1902. (Nos. 6016—6020, 6034, 6035.)

"Iris bright crimson (reddish white, scarlet, burnt-sienna red with whitish outer ring), feet black (greyish black), bill black, base of lower mandible greyish."

Adult birds are white underneath, the sides widely rust-brown, young birds are lemon-yellow underneath. I cannot separate those from Kisser, Moa and Letti.

93. **Gerygone kisserensis sequens** subspec. nov.

Very close to *G. k. kisserensis*, but above more richly coloured, the back and wing-coverts more tinged with cinnamon-rufous, the crown of a deeper tint. The young are also yellow underneath.

Mr. Kühn sent a large series from Roma.

♂, Roma, 15. viii. 1902. (No. 5299A.) (Type of *G. k. sequens*.)

9 ♂ ad., 13 ♀ ad., 8 ad. with sex not stated, 6 juv., Roma, July, August 1902. (Nos. 5039—5042, 5152—5154, 5226—5228, 5296—5300, 5337, 5395—5397; seventeen without numbers.)

"Iris burnt-sienna red (reddish grey, pale crimson), bill and feet blackish."

The nomenclature adopted here is not final, but only chosen to make evident the close relationship of these forms. As we have no collection from Babber we cannot say much about the form occurring there. Dr. A. B. Meyer (*Isis* 1884, pp. 7, 27) described from a single skin from Babber a *Gerygone fulvescens*, which he compared with *dorsalis*; while Dr. Finsch (*Notes Leyden Mus.* xxii. p. 254) identified three spirit specimens from Babber with *Gerygone kühni* (Hartert, *Nov. Zool.* 1900, p. 15, Dammer), saying that Meyer's description of *fulvescens* cannot refer to his examples. It can hardly be said that these close and difficult forms can with absolute certainty be named from a few spirit specimens, and even a single skin will hardly settle the question finally, but I think it is quite possible that the same form occurs on Dammer and Babber, and that Meyer's *fulvescens* is the same as my *kühni*. The diagnosis of Meyer is certainly very short and insufficient, but it does not exactly contradict that of *kühni*. All these forms are apparently subspecies, and should probably all be termed as *G. dorsalis* with an added third name.

94. **Rhipidura rufiventris pallidiceps** subspec. nov.

Differs at a glance from *Rh. rufiventris rufiventris* of Timor by the slaty-brown, not black, pileum, and generally more brownish, less ashy upper surface. The pileum and sides of the head are almost pure black in the Timor form, in marked

contrast to the slaty-grey back, while in *pallidiceps* it is brownish grey, not much different from the back. In *pallidiceps* the abdomen also is paler, but other differences are not apparent. The type of *Rh. rufiventris pallidiceps* is No. 5511, Wetter, 16. ix. 1902. *Rh. r. pallidiceps* seems to be restricted to Wetter, whence Kühn sent :

2 ♂♂, 4 ♀♀, 1 ?, Wetter, September, October 1902. (Nos. 5510—5513, 5647, 5648, 5726, 5728.)

"Iris blackish brown, bill and feet black."

I have been able to compare ten specimens with thirteen from Timor, and I am much obliged to Dr. Finsch for lending me some specimens from the Leyden Museum.

95. **Rhipidura setosa büttikoferi** Sharpe.

Rhipidura büttikoferi Sharpe, *Bull. B. O. C.* i. p. xviii. (1892 : Dammer Island).
Rhipidura hoedti Büttikofer, *Notes Leyden Mus.* xiv. p. 93 (1893 : Letti).
Rhipidura büttikoferi Finsch, *Notes Leyden Mus.* xxii. p. 256 (Letti).

6 ♂♂, 3 ♀♀, Letti, November—December 1902. (Nos. 5987—5992, 6444, 6445.)

4 ♂♂, 1 ♀, Moa, November—December 1902. (Nos. 6112, 6113, 6162, 6382, 6383.)

6 ♂♂, 3 ♀♀, 1 ?, Roma, July—August 1902. (Nos. 5049—5053, 5233—5235 ; two without numbers.)

"Iris blackish brown, bill and feet black."

Specimens from Dammer, Letti, Moa and Roma are not distinguishable.

96. **Rhipidura semicollaris** S. Müll.

Rhipidura semicollaris S. Müller, *Nat. Gesch. Ned. Ind., Land- en Volkenk.*, p. 184 (Timor) ; Finsch, *Notes Leyden Mus.* xxii. p. 257 (Wetter).

4 ♂♂, 1 ♀, Wetter, September, October 1902. (Nos. 5556, 5557, 5723, 5724, 5842.)

"Iris blackish brown, feet black, bill blackish, base of lower bill whitish."

97. **Rhipidura elegantula** Sharpe.

Rhipidura elegantula Sharpe, *Notes Leyden Mus.* i. p. 23 (1878 : Letti) ; Finsch, *op. cit.* xxii. p. 257 (Letti).

4 ♂♂, 2 ♀♀, Letti, November—December 1902. (Nos. 5993—5995, 6440—6442.)

3 ♂♂, 3 ♀♀, Moa, November—December 1902. (Nos. 6111, 6155, 6161, 6379—6381.)

"Iris blackish brown, bill and feet black."

7 ♂ ad., 5 ♂♀ ad., 6 ♂♀ juv., Roma, July, August 1902. (Nos. 5044—5047, 5155—5159, 5230—5232 ; six without numbers.)

I have used binomials for these *Rhipidurae*, not because I am sure that they are more than subspecies, but it requires more time than I can bestow on these birds at present to work out their minute relationship. No doubt several of these forms must be subspecies of one species.

Dr. Finsch has separated the Babber form under the name of *Rhipidura reichenowi* (*Notes Leyden Mus.* xxii. p. 257. pl. IV. fig. 3), because the forehead of the type was cinnamon, not white. He kindly sent me the type specimen, the others, having been sent in spirits, being of not much value. I find, however, that the forehead varies in the Roma specimens from cinnamon to creamy white—the white is, in fact, never pure in *elegantula*, but always of a distinct cream-colour.

I therefore cannot admit the difference of *reichenowi*; nor would the distribution be comprehensible; for, if *reichenowi* was distinct, we should have *elegantula* on Moa, Letti, Roma and Dammer, *reichenowi* on Babber.

The young birds have the forehead always cinnamon, the hind-neck and upper back earthy brown, chest greyish brown, the black jugular collar not developed.

98. **Myiagra rufigula** Wall.

Myiagra rufigula Wallace, *P. Z. S.* 1863. pp. 485, 491 (Semao, near Timor).

5 ♂♂, 5 ♀♀, Wetter, September, October 1902. (Nos. 5502—5504, 5551, 5552, 5740—5743, 5836.)

4 ♂♂, 5 ♀♀, Roma, July, August 1902. (Nos. 5033, 5166—5168, 5302, 5351, 5353.)

"Iris brownish black, feet bluish black (steel-brown), bill black, dark greyish blue (bluish grey) below."

99. **Monarcha inornata cinerascens** (Temm.).

[*Monarcha inornata* Garnot, *Voy. Coqu. Zool. Atl.* Pl. xvi. fig. 2 (1826); i. 2. p. 591 (1828: New Guinea).]

Drymophila cinerascens Temminck, *Pl. Col.* 430 fig. 2 (1826: Timor).

Monarcha inornatus Finsch, *Notes Leyden Mus.* xxii. p. 258 (Kisser, Wetter).

Monarcha inornata kisserensis Hartert, *Nov. Zool.* x. p. 26 (1903).

3 ♂♂, 2 ♀♀, Kisser, May—June 1901. (Nos. 3959, 3999, 4014, 4098, 4098A.)

7 ♂♂, 1 ♀♀, Moa, December 1902. (Nos. 6294—6300, 6313.)

1 ♂, Letti, 28. xii. 1902. (No. 6422.)

1 ♂ (?), 1 ♀, Roma, 3. viii. 1902. (Nos. 5314, 5315.)

"Iris blackish brown, feet dark bluish grey, bill slaty grey with paler tip."

Dr. Finsch came to the conclusion that "*kisserensis*" cannot be separated, but I have (*l.c.*) shown how it differs from typical *inornata*. Although I have not seen Timor specimens, there can hardly be any doubt that they are like those from Wetter, Letti, Kisser, Roma, Moa, etc., if, in fact, the locality was correctly stated by Temminck. I think, therefore, that the name *cinerascens* must be used instead of *kisserensis*.

100. **Monarcha trivirgata** (Temm.).

Drymophila trivirgata Temminck, *Pl. Col.* 418 (1826: Timor).

Monarcha trivirgatus Finsch, *Notes Leyden Mus.* xxii. p. 260 (Kisser, Wetter).

1 ♀, 2 ♂♂, 3 ♀ (juv.) Wetter, September—October 1902. (Nos. 5553—5555, 5727, 5835, 5837.)

27 ♂♀ ad., 2 juv., Roma, July—August 1902. (Nos. 5034—5037, 5169, 5170, 5229, 5301, and twenty-one without numbers.)

"Iris blackish brown, feet dark bluish grey, bill dark bluish grey."

CAMPEPHAGIDAE.

101. **Graucalus personata** (S. Müll.)

Coblepyris personata S. Müller, *Verh. Natuurl. Gesch. Land- en Volkenk.* p. 190 (1839-44: Timor).

Graucalus personatus Finsch, *Notes Leyden Mus.* xxii. p. 249 (Letti, Wetter).

Graucalus lettiensis Meyer, *Abh. Isis* 1884. pp. 7, 28 (Letti).

11 ♂ ad., 7 ♀ and juv. Roma, July—August 1902. (Nos. 5116—5118, 5192—5194, 5262, 5263, 5326, and nine without numbers.)

3 ♂, 3 ♀ ad., Wetter, October 1902. (Nos. 5695, 5753, 5761—5764.)

2 ♂ ad., 1 ♂ juv., 1 ♀, Letti, November 1902. (Nos. 5961, 6044, 6090, 6091.)

2 ♂ ad., 1 ♀ ad., Moa, November 1902. (Nos. 6124, 6125, 6338.)

"Iris blackish brown (bill and feet black). The ♀ from Moa has an unusually blackish throat."

102. **Graucalus melanops** (Lath.).

Corvus melanops Latham, *Gen. Synops., Suppl.* ii. p. 116 (Australia).

4 ♀ and juv., Roma, July, August 1902. (Nos. 5264, 5342—5345.)

1 ♂ juv., 1 ♀ ad., Letti, November 1902. (Nos. 5917, 5918.)

2 ♂ ad., 1 ♀ ad., 3 juv., Kisser, April—June 1901. (Nos. 4090, 4123, and four without numbers.)

6 juv., Moa, November 1902. (Nos. 6208, 6227—6231.)

"Iris deep brown (black), feet and bill black."

103. **Edoliisoma dispar** Salvad.

Edoliisoma dispar Salvadori, *Ann. Mus. Civ. Genova* xii. p. 329 (Type from Kĕ Bandam).

1 ♂ ad., 1 ♂ juv., 3 ♀ juv., 1 ♀ ad., Roma, July, August 1902. (Nos. 5098, 5174, 5176, 5331, 5325, 5391.)

"Iris ♂ ad., black, bill and feet black. Iris ♀ ad., blackish brown, bill and feet black."

These specimens are rather large, the bills somewhat long. Specimens from Dammer have partly large bills, partly not larger than those from the Key and S.E. Islands.

104. **Lalage timoriensis** (S. Müll.).

Celebpyris timoriensis S. Muller, *Verh. Nat. Gesch. Ned. Ind., Land- en Volkenkunde* p. 190 (1839-44: Timor).

Lalage riedelii A. B. Meyer, *Isis* 1884, pp. 7, 29 (Kisser).

Lalage timoriensis Finsch, *Notes Leyden Mus.* xxii. p. 251 (Letti, Kisser, Wetter).

3 ♂ ad., 1 ♂ juv., 1 ♀ ad., 1 ♀ juv., Kisser, April, May 1901. (Nos. 3906, 3977, 3981, and three without numbers.)

6 ♂ ad., 1 ♀, Moa, November, December 1902. (Nos. 6205, 6206, 6257, 6339, 6352, 6407, 6408.)

7 ♂ ad., 3 ♀, Wetter, September, October 1902. (Nos. 5616—5618, 5668, 5805—5809, and one without number.)

8 ♂♀ juv., Roma, July, August 1902. (Nos. 5030—5032, 5303, 5304, 5371, 5390, 5400.)

"Iris ♂ ad., coffee-brown, bill and feet black."

4 ♂ ad., 1 ♂ juv., 4 ♀ ad., 1 ♀ juv., Letti, November 1902. (Nos. 5908—5916, 5930.)

TURDIDAE.

105. **Geocichla peronii audacis** (Hart.).

Geocichla audacis Hartert, *Bull. B. O. Club* viii. p. 43 (1899: Dammer).

Geocichla Peronii (non Vieillot) Finsch, *Notes Leyden Museum* xxii. p. 263 (Wetter and Babber).

After comparing our magnificent series of 34 *audacis* with 10 Timor birds (5 in Tring and 5 in London) I am at a loss to understand Dr. Finsch's statement, that Timor examples are of the same colour as *audacis*. *G. peronii peronii* is

above yellowish cinnamon, *audacis* chestnut- or rufous-cinnamon, and also the chest and sides differ in the same way. Possibly the Timor examples in Leyden have darkened, as Corn-Buntings and Robins do, in collection, especially when inadequately kept and exposed to dust, light and damp. Dr. Finsch, however, is right in doubting the differences in size, though generally *peronii* are larger, wing near to or above 110 mm., *audacis* from Wetter, Babber, Roma on an average 104 to 109, from Dammer 100 to 108 mm.; but I admit that these differences in size are not constant enough to mention them, while the colour is an unmistakable character for the separation of these two excellent subspecies.

Mr. Kühn sent the following specimens, in addition to those formerly obtained on Dammer:

13 ♂♀ ad., Wetter, September, October 1902. (Nos. 5452, 5457, 5597, 5598, five without numbers.)

2 juv., 28 ♂♀ ad., Roma, July, August 1902. (Nos. 5079—5084, 5147—5151, and nineteen without numbers.)

"Iris dark coffee-brown (dark brown), feet pale flesh-colour, bill dull black, pale at base below."

106. **Geocichla andromedae** (Temm.).

Myiothera Andromedae Temminck, *Pl. Col.* 392 (1826: Java).
Geocichla Andromedae Finsch, *Notes Leyden Mus.* xxii. p. 264 (Wetter).

4 ♂♂, 4 ♀♀, Wetter, October 1902. (Nos. 5592—5594, 5776, 5848, 5849, 5849A, 6325.)

1 ♂ juv., Roma, 26. viii. 1902. (No. 5410.)

♂♀ ad., "Iris dark brown (very dark brown, brownish-black), feet dark brownish grey, bill black."

107. **Pratincola caprata caprata** (L.).

Motacilla Caprata Linnaeus, *Syst. Nat.* ed. xii. p. 335 (1766: ex Brisson, hab. Luzon).
Pratincola caprata Finsch, *Notes Leyden Mus.* xxii. p. 252 (Wetter, Kisser).

5 ♂ ad., 1 ♂ juv., 2 ♀ ad., Wetter, September, October 1902. (Nos. 5518, 5561, 5562, 5738, 5739, 5762, 5800, 5801.)

3 ♂ ad., 2 ♀, 1 ♂ juv., Kisser, April, May 1901. (Nos. 3859, 3926, 3962, and four without numbers.)

TIMELIIDAE.

108. **Cisticola cisticola fuscicapilla** Wall.

Cisticola fuscicapilla Wallace, *P. Z. S.* 1863, p. 489 (Timor, Flores, Type from Timor).

The magic spell cast around *Cisticola cisticola* in its (probably numerous) geographical forms by Dr. Sharpe, who in the *Cat. B.* vii. united all the forms from France and Spain to South Africa, China and Japan, south down to Timor, etc., has now been broken. Mr. Whitaker has separated the N. African form (*Bull. B. O. C.*, October 1903), and we may as well give up the view that the same form ranges from France to the Cape and Timor. The birds from Wetter, Moa, Letti, Kisser, are exactly like those from Timor. They are much duller than S. European *cisticola*.

2 ♂♂, 1 not sexed, Moa, November 1902. (Nos. 6157, 6323, 6324.)

1 ♀, Wetter, 1. x. 1902. (No. 5676.)

2 ♂♂, 3 ♀♀, 1 unsexed, Kisser. April, May 1901. (Nos. 3841, 4015—4017, 4073, 4075.)

"Iris greyish brown, feet pale flesh-brown, bill brownish, whitish below."

109. **Cisticola exilis** (Vig. & Horsf.) (? subsp.)

Malurus exilis Vigors & Horsf., *Trans. Linn. Soc.* xv. p. 223 (1827 : ex Latham, Australia).

All these birds have striped crowns and long tails. They appear to be all in winter (non-breeding) dress. The want of white tips to the rectrices and some other details seem to distinguish them readily from the various forms of *C. cisticola*. I hardly think they will ultimately be found identical with typical *exilis*, but cannot give reliable character.

5 ♂♂, 6 ♀♀, Letti, November, December 1902. (Nos. 6013, 6014, 6015, 6454—6461.)

1 ♂, Moa, 28. xi. 1902. (No. 6305.)

17 ♂♀, Roma, July—August 1902. (Nos. 5043, 5225, 5291—5295, and ten without numbers.)

110. **Megalurus galactotes** Temm.

Malurus galactotes Temm., *Pl. Col.* 65 fig. 1 (1823 : Australia).

♀ in moult. Roma, 30. vii. 1902. (No. 5224.)

"Iris dull dark brown, bill blackish, whitish with yellowish base below, feet pale brownish."

This specimen has the crown and upper tail-coverts sharply streaked with black; it does not, therefore, belong to *M. timoriensis*.

LANIIDAE.

111. **Lanius bentet** Horsf.

Lanius bentet Horsf., *Trans. Linn. Soc.* xiii. p. 144 (1821 : Java); Finsch, *Notes Leyden Mus.* xxii. p. 268 (Kisser).

The variation in the extent of the black on the crown is remarkable. It is greatest in specimens in worn plumage, less evident in freshly moulted ones ; but sometimes the black does not seem to be there, so that it could not be produced by wear. The young bird just before and after leaving the nest is above more rusty brownish, with narrow, blackish anteapical bars, the secondaries widely edged with rusty-buff, the alar speculum buffy-whitish, sides of breast with blackish anteapical bars.

6 ♂♀ ad., Wetter, September, October 1902. (Nos. 5765, 5798, 5799, 5802—5804.)

2 ♂ ad., 2 ♀ ad., 2 pull., Kisser, April 1901.

"Iris brown, bill and feet black, feet in the pulli blackish plumbeous, bill brownish black, below whitish."

112. **Pachycephala calliope** Bp.

Pachycephala calliope Bonaparte, *Consp. Av.* i. p. 328 (1850 : Timor, ex Müller's MS.); Finsch *Not. L. M.* xxii. p. 265 (Wetter).

6 ♂ ad., 1 ♀ ad., Wetter, September 1902. (Nos. 5496—5500, 5517, 5634.)

"♂ Iris dark reddish brown (coffee-brown), feet dark plumbeous (dark grey), bill black."

113. **Pachycephala orpheus** Jard.

Pachycephala orpheus Jardine, *Contr. Orn.* 1849 p. 129 pl. 30 (♀, typical locality Timor. Finsch, *Not. L. M.* xxii. p. 266 (Wetter).

4 ♂♂, 5 ♀♀, 1 without sex stated, 1 ♂ albinistic var., Wetter, September, October 1902. (Nos. 5514—5516, 5627—5632, 5725, 5866 (albino).

"Iris blackish brown (dark chocolate, dark brownish red), feet blackish, bluish or ashy grey, bill dull black, base below pale in younger birds." The albino is a somewhat pretty bird. Upperside white, with a few brownish grey feathers, outer webs of remiges and scapulars tinged with yellow. Lower rump, upper tail-coverts and tail rich deep yellow. Breast and abdomen creamy buff, flanks tinged with yellow. "Iris chocolate-red, feet dark plumbeous, bill black," therefore not a true albino.

A good series in fresh plumage might show that the Wetter form is not quite typical *orpheus*. The back is somewhat less greenish, more brownish, the crown lacks the greyish ashy tinge, the upper tail-coverts are more tinged with a sort of orange-yellow. As, however, most of our specimens are in worn plumage, and we have not a good series from Timor, these differences may not be of any systematic value.

114. **Pachycephala par** spec. nov.

Supra olivascente-brunnescens, supracaudalibus rufescentibus, viridi tinctis. Remigibus nigro-fuscis, viridi-olivaceo marginatis, secundariarum internarum pogoniis externis late olivaceo-brunneis. Rectricibus viridi-olivaceis, pogoniis externis flavo-viridi tinctis et marginatis. Gutture albo, rhachidibus plumarum brunneo terminatis, gastraeo reliquo luteo, plumis tibialibus plus minusve flavo tinctis, subcaudalibus luteo-flavis, subalaribus pallide luteis. Rostro nigro, pedibus plumbeis. Al. ♂, 93-94, ♀, 90-93, caud. 72-74, rostr. ca. 20, metatars. ca. 25 mm.

This interesting new "Thickhead" belongs to one of those groups in which the sexes are alike, the male being indistinguishable from the female except by a somewhat but very little smaller size. The upper surface is olive-brown with a faint ashy tinge on the crown, the upper tail-coverts are of a peculiar rufous, with a more or less greenish tinge. The wing is brownish black, the quills externally margined with greenish olive, the inner secondaries with most of the outer webs, the last one over both webs olive-brown. Rectrices greenish olive, the outer webs margined with, and in certain lights entirely yellowish olive-green. The shafts of the rectrices brown above, white below. Chin and throat white, the shaft on the lower throat tipped with brown streaks, the white merging into the buff breast and abdomen. Sides of body deeper buff, chest with dark shaft-stripes. Thighs mostly washed with yellow, under tail-coverts buffy-yellow, under wing-coverts pale buff. Bill black, feet plumbeous (reddish grey, dirty ashy grey), iris blackish brown or brownish black.

The young bird is much like the adult, but the wings are more margined with rufous; throat and breast tinged with yellow, and heavier, and more streaked with blackish brown.

Hab. Roma.

Type: ♀, No. 5339, Roma, 9. viii. 1902. H. Kühn coll.

Mr. Kühn, who discovered this new form on Roma, sent:

4 ♂♂, 4 ♀♀, Roma, July, August 1902. (Nos. 5176 [juv.], 5221, 5316, 5317, 5339, 5340, 5369, 5376.)

115. **Pachycephala par compar** subspec. nov.

Differs from *P. par* as follows: Lores and an indistinct superciliary line paler, more buffy, ear-coverts somewhat paler: the abdomen is much paler, and sometimes tinged with yellow: the throat therefore hardly at all in contrast to the abdomen; under tail-coverts paler, more sulphur-yellow; tail generally lighter; under wing-coverts lighter, almost whitish. Some specimens have distinct brown shaft-streaks on the throat, others not.

Hab. Letti and Moa.

Type: No. 6033, ♂, Letti, 4. xi. 1902. H. Kühn coll.

There can be no doubt that the two new forms, *par* and *compar*, represent each other, and I have therefore treated them as subspecies; but an ultimate revision of the genus will probably lead to the reception of more forms into the same species. I am, however, not able to review the whole group at present.

Mr. Kühn sent the following specimens:

2 ♂♂, 5 ♀♀, Letti, November, December 1902. (Nos. 6030—6033, 6437—6439.)

3 ♂♂, 1 ♀, Moa, November 1902. (Nos. 6204, 6250, 6251, 6344.)

"Iris ♂ dark brown (dull blackish brown), ♀ chocolate-red (burnt-sienna red), dark coffee-brown (dark brown), bill black, feet ash-grey, greyish plumbeous."

116. **Pachycephala arctitorquis kebirensis** Mey.

Pachycephala kebirensis A. B. Meyer, *Abh. Isis* 1883. p. 35 (Babber).

20 ♂ ad., 18 ♀♀ and juv., Roma, July—August 1902. (Nos. 5014—5028, 5222, 5223, 5311, and twenty without numbers.)

10 ♂ ad., 6 ♀♀, Moa, November 1902. (Nos. 6114—6121, 6197—6199, 6258, 6259, and three without numbers.)

1 ♀, Wedan, near Babber. W. Doherty coll.

It is with much hesitation that I enumerate the birds from Roma and Moa under Dr. Meyer's name *kebirensis*, which he has given to the Babber form; but I am fully convinced that none of these are the true *arctitorquis*, which is the Tenimber (Timorlaut) one only.

In *P. arctitorquis arctitorquis* the *female* is above cinnamon, the crown really cinnamon, the back tinged with brown, and *P. a. arctitorquis* is considerably smaller. In the form inhabiting Dammer, which I presume to be exactly the same as that from Babber (judging from the one specimen obtained by Doherty and from descriptions), the crown is not cinnamon in the fully adult *female*, but rufous-grey. The Roma birds are most closely allied to those from Dammer (and Babber), but the *females* are mostly more greyish above. I am inclined to think that they are different, especially as there is an evidently young Roma example with a yellowish abdomen and less cinnamon above than any apparently equally young Dammer examples. The tails are also purer grey, not tinged with grey. On the other hand, two Dammer birds (apparently very adult *females*) are not distinguishable from the Roma series, and the former are mostly worn, the Roma ones in beautifully fresh plumage. Moreover, the worn Moa birds (collected at another time of the year) look more brownish on the tails. On the other hand, the Moa series is smaller, wings about 1 to 6 mm. shorter. I defer judgment at present, until fresh series from the same months of ♂ and ♀ ad. and juv. are to hand from the various islands; but there are apparently only two possibilities: that of two or that of four forms—namely, either:

1. *P. arctitorquis arctitorquis :* Tenimber group.

2. *P. arctitorquis kebirensis :* all the South-West islands from Babber to Moa, Dammer and Roma.

Or :

1. *P. arctitorquis arctitorquis :* Tenimber group (smaller, ♀ more cinnamon).

2. *P. arctitorquis kebirensis :* Babber and Dammer (larger, ♀ more brownish).

3. *P. arctitorquis* subspec. nov. : Roma, size of ♂, ♀ more greyish).

4. *P. arctitorquis* subspec. nov. : Moa (colour as ♂, but smaller).

I prefer to adopt the former course for the present time.

ZOSTEROPIDAE.

117. **Zosterops lettiensis** Finsch.

Zosterops lettiensis Finsch, *Notes Leyden Mus.* 1898. p. 136 (Letti)

I am obliged to use binomials for forms of the genus *Zosterops* in most cases, as I cannot venture just now to review the whole genus, in order to arrange it in species and subspecies. I cannot, however, agree with Dr. Finsch, who unites *Zosterops lettiensis* with *griseiventris* from Tenimber, which is smaller (if correctly measured, *males* being compared with *males* and *females* with *females*) and greyish on the sides. Though the birds from Moa and Letti, Kisser and Wetter, are extremely near to *griseiventris*, they are not more different from *citrinella* of Timor, Savu, and other Sunda Islands ; in fact, they only differ from *citrinella* in having considerably larger bills, being perhaps (on an average) paler yellow on the throat and generally slightly longer in the wing.

I cannot see my way to follow Dr. Finsch (*Zosteropidae, Tierreich Lief.* 15. p. 16) in recognising two species on Timor—namely, *citrinella* on Timor alone and *neglecta* on Timor and eastwards to Java. Our very large series leaves the possibility of separating the Timor form, being slightly darker, and allowing *neglecta* to inhabit Java to Flores ; but the differences are so slight, so inconstant, that I do not venture to do this. If, however, future material from all islands **collected at the same season** should induce any one to do such splitting, then the Alor birds, which are very yellowish above and have brighter yellow upper tail-coverts, must also be distinguished. I do not venture to do so at present, having only two specimens from Alor. The following forms are evident enough :

Z. citrinella, Timor to Java : bill smaller.

Z. lettiensis, Wetter, Kisser, Moa, and Letti : bill larger.

Z. bassetti, Dammer and Roma : browner on the underside.

Z. griseiventris, Tenimber : smaller and greyer on the sides underneath.

All these must be subspecies of one species, but I am not certain about the oldest name of the latter.

Mr. Kühn sent the following specimens of *lettiensis :*

6 ♂♂, Letti, November, December 1902. (Nos. 5984—5986, 6446—6448.)

4 ♂♂, 2 ♀♀, Moa, November 1902. (Nos. 6178—6180, 6303, 6304.)

6 ♂♂, 3 ♀♀, 2 ?, Kisser, April—June 1901. (Nos. 3842—3846, 3943, 4022—4025, 4105, and two without numbers.)

4 ♂♂, 2 ♀♀, 1 ?, Wetter, September, October 1902. (Nos. 5681—5686, 5686*a*).

"Iris brown in various shades, bill black with greyish base below, feet ash-grey."

118. **Zosterops bassetti** Sharpe.

Zosterops bassetti Sharpe, *Ann. & Mag. Nat. Hist.* ser 6. vol. xiv. p. 57 (1894: Dammer).

25 ♂♀, Roma, July, August 1902. (Nos. 5054—5059, 5161—5165, and fourteen without numbers).

Generally Roma specimens seem to be a little larger, but nearly half of them are not larger than true *bassetti*; in fact, I believe, if we had a sufficiently large series from Dammer, there would be no difference at all.

DICAEIDAE.

119. **Dicaeum mackloti** subspec. nov.?

Mr. Kühn sent a series from Roma and Moa. These birds seem to be somewhat intermediate between *D. mackloti mackloti* and *D. mackloti salvadorii*. The black surrounding of the lower throat is more or less wide, as in *D. m. mackloti*, but nearly always wider in the Roma birds; the undersurface is buffy, apparently paler than in *salvadorii*; the bill larger than in *mackloti* (in most specimens), more like that of *salvadorii*. The latter has been described from Babber, and occurs also on Dammer; but I have only a single *male* from the latter island before me. *D. m. salvadorii* is doubtless (like several others) a subspecies of the *mackloti* group. The underside is not quite pure white in *mackloti*, the black surrounding of the red throat not entirely absent, but somewhat indicated in *salvadorii*.

Future ornithologists will perhaps name both the Roma and Moa forms, but I do not venture to go so far just now.

Mr. Kühn sent the following specimens:

13 ♂ ad., 4 ♂ juv., 6 ♀ ad., 4 juv., Roma, July, August 1902. (Nos. 5305—5310, 5355—5358, 5379—5398, 5399, 6181, and twelve without numbers.)

10 ♂♂, 3 ♀♀, November, December 1902. (Nos. 6182—6188, 6266, 6334—6336, and two without numbers.)

NECTARINIIDAE.

120. **Cinnyris solaris exquisita** subspec. nov.

[*Nectarinia solaris* Temminck, *Pl. Col.* 347 (1825: "Amboyna," errore! Terra typica Timor, ex Sal. Müller)].

Cinnyris solaris Finsch, *Notes Leyden Mus.* xxii. p. 268 (Wetter).

Very closely allied to *N. solaris solaris*, but the bill rather long, colour of abdomen and breast very brilliant, axillary tufts deep orange, back much washed with golden brown. (*Type:* No. 5609, Wetter. 30. ix. 1902.)

Mr. Kühn sent of *C. s. exquisita:*

12 ♂ ad., 2 ♂ juv., 4 ♀♀, Wetter, September, October 1902. (Nos. 5492—5495, 5571, 5572, 5608—5611, 5729, and seven without numbers.)

"♂ ad. Iris blackish brown, bill black, feet black."

We must recognise three subspecies:

1. *Cinnyris solaris degener* subsp. nov.: bill shorter, back more greenish, axillary tufts pure yellow, flanks greenish. Flores, Lomblen, Alor. (*Type:* No. 6039, ♂, Endeh, S. Flores, 12. ix. 1896, A. Everett coll.)

2. *Cinnyris solaris solaris:* bill probably a little longer, back more washed with golden brown, axillary tufts more golden yellow. Exactly intermediate between *C. s. degener* and *C. s. exquisita*. Timor and Semao.

3. *Cinnyris solaris exquisita* : bill longest, back washed with golden brown, axillary tufts orange-yellow (very different from those of *degener*), flanks orange with an olive wash. The *females* underneath bright yellow, with an orange tinge on the breast and centre of the abdomen, under tail-coverts of the brightest yellow ; the females of *C. s. degener* are underneath sulphur-yellow, with a faint greenish tinge. (Of *C. s. solaris* the Tring Museum has no *females*.) *Cinnyris solaris exquisita* inhabits Wetter.

MELIPHAGIDAE.

121. **Myzomela kuehni** Rothsch. (Pl. X. *Nov. Zool.* vol. x.)

Myzomela kuehni Rothschild, *Bull. B. O. C.* p. 42, February 1903 (Wetter) ; *Nov. Zool.* 1903, p. 219.

13 ♂ ♀, Wetter, September, October 1902. (Nos. 5479—5481, 5568—5570, 5692—5694, and four without numbers.)

122. **Stigmatops notabilis** Finsch.

Stigmatops notabilis Finsch, *Notes Leyden Mus.* xx. p. 130 (1898 : Wetter) ; id. *Notes Leyden Mus.* xxii. p. 271, pl. iv. 4.

6 ♂♂, 1 ♀, Wetter, September 1902. (Nos. 5792—5797, 5831.) "Iris blackish brown, feet dark grey (or dark brown in one), bill black."

All the specimens are marked "♂," but evidently one is a *female*, being much smaller. Wings in the *males* 72—75,* in the *females* 63 mm., bill in the *males* 15—17, in the *female* 13 mm.

The only specimen heretofore known is the type in Leyden, which has been preserved in spirits. The yellow is a little, but not much faded, otherwise it is in perfect coloration.

123. **Stigmatops squamata** Salvad.

Stigmatops squamata Salvadori, *Ann. Mus. Civ. Gen.* xii. p. 337 (1878 : Koer, Mus. Leyden) ; Finsch, *Notes Leyden Mus.* xxii. p. 270 (Wetter and Babber).

A series from Wetter and Roma seems to be perfectly similar to *S. squamata squamata*, and that is also shown by Dr. Finsch's measurements of Wetter birds. This distribution is most peculiar, since the birds from Moa and Letti seem to be distinctly smaller and mostly indistinguishable from the small Tenimber race, *S. squamata salvadorii* ?

2 ♀ ad., 2 ♂♂ 1 ♀ immat. Wetter, October 1902. (Nos. 5683, 5732—5735.)

16 ♂ ♀ ad., 9 ♂ ♀ immat. Roma, July, August 1902. (Nos. 5060—5070, 5160, and thirteen without numbers.)

124. **Stigmatops squamata** subspec. ?

? *Stigmatops salvadorii* Meyer, *Zeitschr. Ges. Orn.* 1884, p. 217 (Timorlaut).
Stigmatops kebirensis Meyer, t.c. p. 218 (Babber).

While most of the specimens from Moa and Letti are as small and partly even smaller than *salvadorii*, some, and especially those from Wetan, near Babber, are partly as large as *squamata*, partly intermediate between *squamata* and *salvadorii*. It is therefore difficult to come to a firm conclusion. Geographically we might expect—since it is certain that the Timorlaut race (*salvadorii*) is

* Dr. Finsch gives the wing as 168 mm. This must be a misprint or pen-slip. If 68 was meant the wing is not fully grown or exceptionally small.

markedly smaller—to find *salvadorii* on all the S.W. Islands, or a third race on the more western one, but hardly the large one on the S.E. Islands, Key and Webber and Roma, with a small one between on Tenimber and the more eastern S.W. Islands. Mr. Kühn sent the following specimens:

3 ♂♂, 3 ♀♀, Letti, November, December 1902. (Nos. 6026—6029, 6429, 6430.)

6 "♂," 1 ♀ juv. Moa, November, December 1902. (Nos. 6200, 6201, 6265, 6321, 6322, 6386, 6387.)

1 ♂, 2 ♀♀, Wetan, near Babber, February 1897. W. Doherty coll.

125. Philemon cineraceus (Bp.)

Tropidorhynchus cineraceus Bonaparte, *Consp. Av.* i. p. 390 (1850: ex Müller MS. in Mus. Lugdun. "ex Timor." The locality Timor is probably an error, because on that island we find the totally different *Philemon inornatus* Gray 1849 (*Gen. B.* pl.,—without locality, but according to specimens in Brit. Mus. from Timor), which is apparently the same as *Tropidorhynchus vulturinus* Jacq. & Puch. 1853, if the latter came from Timor. Bonaparte's description is very short and useless, but I suppose we must accept his name, as Dr. Finsch found the type to agree with the birds from Letti and Kisser.)

Mr. Kühn sent the following specimens:

9 ♂♀, Letti, November, December 1902. (Nos. 5970, 5971, 6051, 6498—6503.)

6 ♂♀, Moa, December 1902. (Nos. 6285—6287, 6388—6390.)

24 ♂♀, Kisser, April, May 1901. (Nos. 3796, 3812, 3819, 3957, and twenty without numbers.)

"Iris dull brown (dark or dull coffee-brown), feet plumbeous (dark plumbeous, blackish), bill black, bare parts whitish grey."

The *females* are smaller than the *males*. ♂ wing 133—137, ♀ about 120—123 mm. The sides of the head are bare of feathers (while in *Ph. inornatus* there is only a bare line under and behind the eye). The feathers of the jugulum are rounded, in fresh plumage with a pure white drop-shaped hard tip and ashy-white almost to the base (while in *Ph. inornatus* they are elongated and pointed, the basal half dark-brown). The upperside is pale brownish-grey (not dark ashy-brown), the wings are longer. There is much variation, probably according to age. Sometimes there is a bright yellow on the sides on the foreneck, and nearly the whole throat is yellow, while the wings are margined with greenish or yellowish—these birds are probably younger; in others there is no sign of yellow, the outer edges of the wings are clear ashy grey—these are apparently the oldest birds.

126. Philemon timoriensis (Müll.).

Tropidorhynchus timoriensis S. Müller, *Verh. Land- en Volkenk.* p. 153 (1839–44: Timor and Semao).

Philemon timoriensis Finsch, *Notes Leyden Mus.* xxii. p. 273 (Wetter).

13 ♂♀, Wetter, September, October 1902. (Nos. 5432—5436, 5451, and seven without numbers.)

"Iris smoky-grey, feet plumbeous (blackish grey), bill black."

It may be desirable to separate the Wetter form, because the bill is generally longer, the distance from the end of the knob to the tip of the bill is about 2 to 4 mm. less; but in two specimens this is not evident, and, our series of typical *timoriensis* from Timor and Savu consisting only of seven specimens, it would be hazardous to give a name to the Wetter form. The crown is also lighter in most, but not all, Wetter specimens.

MOTACILLIDAE.

127. **Anthus rufulus medius** Wall.

Anthus medius Wallace, *P. Z. S.* 1863, p. 488 (Timor); Finsch, *Not. Leyd. Mus.* xxii. p. 275 (Kisser).

11 ♂ ♀, Letti, November, December 1902. (Nos. 5929, 5973—5976, 6466—6471.)

7 ♂ ♀, Moa, November, December 1902. (Nos. 6164—6167, 6256, 6331, 6332.)

5 ♂ 1 ? Kisser, April 1901. (Nos. 3824, 3825, 3851, 3852, 3903, 3904.)

128. **Motacilla boarula melanope** Pall.

4 ♂ ♀, Wetter, October 1902. (Nos. 5573, 5721, 5857, 5858.)

1 ♀, Moa, 6. xii. 1902. (No. 6284.)

PLOCEIDAE.

129. **Erythrura tricolor** (Vieill.).

Fringilla tricolor Vieillot, *Nouv. Dict. d'Hist. Nat.* xii. p. 233 (1817: Timor).

15 ♂ ♀, Wetter, September, October 1902. (Nos. 5505—5509, 5612—5615, 5689—5691, three without numbers.) Nine of these are very fine adult *males*.

1 ♂ ad., 9 ♀ and jun., Roma, July, August 1902. (Nos. 5048, 5206—5209, 5312, 5313, 5392—5394.)

♂ ad. "Iris blackish brown, bill black, feet pale brownish flesh-colour (pale brownish)."

Dr. Sharpe, apparently having compared nothing else than one specimen from Timor, separated a single *male* from Timorlaut as *Erythrura forbesi* (*Cat. B.* xiii.), because it had the hinder head, hind-neck and mantle entirely green without any wash of blue. When discussing the birds of Timorlaut and Dammer I called the *Erythrura* from these islands *E. tricolor forbesi*, as they agreed perfectly with the type of *forbesi*. The birds we have now received from Wetter and Roma are also exactly like all those from Timorlaut and Dammer, while the single one from Timor has the blue of the forehead spread over the hind-neck and mantle. But what is *E. tricolor* Vieillot? This name is based on the "Azuvert" of Vieillot's *Ois. Chant.* Pl. 20, 1805, and there we find figured and described a bird with the hinder crown, hind-neck, and mantle pure green, without a bluish wash or tinge ("un joli vert-olive sur l'occiput, le dessus du cou, le dos . . . .") How, therefore, can he bestow a new name on a bird because it has no blue on the hind-neck? It seems to me that the single Timor *male* in London is an aberrant example, because Dr. Finsch says (*Not. Leyd. Mus.* xxii. p. 277) that Wetter birds are quite like Timor ones, and because we have a *male* from Teuimber (No. 2951) in which the blue spreads over the hind-neck on to the beginning of the interscapulium. A fresh series from Timor, however, is much desired! There is a discrepancy in the description of the tail in Vieillot's original description, but it appears to be due to some fault in the specimen or to a fault in the drawing and text, such as we not uncommonly find in older (and modern) writings. Otherwise the plate represents most clearly the bird under consideration.

130. **Munia pallida** Wall.

Munia pallida Wallace, *P. Z. S.* 1863, pp. 486, 495 (Lombok and Flores, type Lombok).

24 ♂♀, Roma, July, August 1902. (Nos. 5078, 5210—5212, 5278—5288, nine without numbers.)

25 ♂♀, Kisser, April, May 1901. (Nos. 3837, 3914, 3916, 3917, 3918, 3920—3925, 4003—4008, seven without numbers.)

Most of these specimens are rather greyish brown on the back, but I do not think they can be separated from the true *pallida*, though a larger series from Lombok and Flores should be examined.

131. **Munia punctulata nisoria** (Temm.).

Fringilla nisoria Temminck, *Pl. Col.* 500 (1830: Java).

16 ♂♀ and juv., Kisser, April, May 1901. (Nos. 3836, 3915, 3919, 3939, 3987—3989, 3991—3996, three without numbers.)

3 juv., Wetter, August 1902. (Nos. 3844—3846.)

1 ♀ ad., 15 juv., Roma, July, August 1902 (Nos. 5267—5277, five without numbers.)

3 ♂♀ ad., Moa, November, December 1902. (Nos. 6156, 6263, 6393.)

11 ♂♀ ad., 1 juv., Letti, November, December 1902. (Nos. 6005—6012, 6449—6452.)

132. **Taeniopygia castanotis insularis** Wall.

Amadina insularis Wallace, *P. Z. S.* 1863, p. 495 (Timor, Flores, Terra typica: E. Timor).

19 ♂♀, Kisser, April, May 1901. (Nos. 3830, 3833—3835, 3863, 3864, 3929—3938, three without numbers.)

7 ♂♀, Wetter, October 1902. (Nos. 5688, 5810—5815.)

20 ♂♀, Moa, November 1902. (Nos. 6101—6106, 6189—6196, 6267, five without numbers.)

12 ♂♀, Letti, November 1902. (Nos. 5996—6006.)

ORIOLIDAE.

133. **Oriolus flavocinctus migrator** subsp. nov.

Differs from *O. flavocinctus mülleri* Bp. of S. New Guinea and Aru in being more heavily marked with black. The black shaft-stripes on the underside and crown are wider, the wide sagittate black spots on the feathers of the back are broader, the birds therefore appearing darker. The yellow tips to the lateral rectrices are generally still more reduced than in *mülleri*. Some of the Roma specimens can hardly be distinguished, but the series shows the differences very strikingly.

Type of *O. fl. migrator*: ♂ No. 5907, Letti 4. xi. 1902.

There are thus three subspecies of *Oriolus flavocinctus*:

Oriolus flavocinctus migrator: Stripes below and spots above larger and more conspicuous, yellow tips to outer rectrices as small as in *O. fl. mülleri* or smaller, Letti, Moa, Roma.

Oriolus flavocinctus mülleri: Stripes below narrower, spots above smaller, yellow tips to outer rectrices a little larger, but sometimes not so, than in *O. fl. migrator*: Aru Is., S. New Guinea.

Oriolus flavocinctus flavocinctus: Stripes below and spots above as in *O. fl. mülleri*, yellow tips to outer rectrices larger: Australia.

Of *Oriolus flavocinctus migrator* Mr. Kühn sent the following specimens:—

3 ♂ ad., 1 ♀ ad., Letti, November, December 1902. (Nos. 5907, 5968, 6428, 6427.)

5 ♂ ad., 2 ♀ ad., 2 ♀ juv., Moa, November 1902. (Nos. 6141—6144, 6219, 6220, 6253, 6254, 6280.)

17 ♂ ♀ ad., 1 ♂ juv., 2 ♀ juv., Roma, July, August 1902. (Nos. 5101—5111, 5102A, 5105A, seven without numbers.)

♂ ♀ ad.: "Iris scarlet, bill brownish red (pale brownish red, pale sienna-red), feet plumbeous (bright plumbeous, ash-grey)."

The *female* is like the *male*, young birds are underneath paler and with much wider black median stripes to the feathers. The iris is blackish grey, the bill dull blackish or brown, and there is a narrow yellow ring around the eyes.

134. **Oriolus finschi** spec. nov.

♂. Supra brunneo-cinereus, indistincte nigrescente striatus, uropygio supracaudalibusque unicoloribus brunneo-cinereis, alis pullioribus, tectricibus pallide marginatis. Loris, mento, capitis colliique lateribus schistaceis. Subtus luteo-brunnescens, pectore et abdominis plumarum mediis brunneo-cinereis, cauda brunnea, rectricum pogoniis internis luteo terminatis.

♀. Supra brunnescens, pileo nigrostriato, collo nigro-brunneo maculato, alis paullo pullioribus. Loris, capitis colliique lateribus nigris, regione supra-auriculari et post-auriculari lutescente-albidis, gutture medio jugulóque albido-luteis, pectore abdomineque lutescentibus, plumarum mediis brunnescentibus.

Dr. Finsch identified a single young *male* from Wetter with *Oriolus viridifuscus* of Timor (*Notes Leyden Mus.* xxii. 246), an error which could not have been made if he had had adult *males* and *females*. The *female* is very similar to that of *O. viridifuscus*, but the hind-neck is spotted with black, the whitish stripe above the auricular region is wider, the whitish patch behind the ear-coverts appears to be larger, the tail is longer, the more or less distinct blackish lines on the jugulum are absent. The *male*, however, differs very strikingly. The upper surface is brownish ash-grey, not in the least greenish, the lores, chin, ear-coverts and sides of neck are slate-colour, the throat and jugulum buffy-brown like the abdomen, not grey in contrast with the abdomen. The bill is not brownish-red, but dark brown.

♂: wing about 43—46, tail about 120—123, bill 28·5—31, metatarsus 28 mm.

♀: wing about 38—43, tail about 120—124 mm.

Type: ♂ No. 5604A, Wetter, 16. iv. 1901 (Mus. Rothschild).

This interesting new form is named in honour of Dr. Otto Finsch, who wrote the first list of the birds of the South-West Islands, which has been of the greatest use to me during the present work, although our conclusions differ frequently.

No doubt several of these orioles of the so-called *Mimeta* group will in future rank as subspecies of one species, but I cannot at present review them. Probably *striatus*, *bouruensis*, *forsteni*, *viridifuscus* and *finschi* will be subspecies of one species.

We have received the following specimens:

5 ♂♂, 5 ♀♀, Wetter, 16. iv. 1901, September, October 1902. (Nos. 5599—5603, 5604A, four without numbers.)

♂ ♀: "Iris scarlet (vermilion, dark scarlet), bill dull black (blackish, black) feet plumbeous (blackish grey)."

135. **Sphecotheres hypoleucus** Finsch.

Sphecotheres hypoleucus Finsch, *Notes Leyden Mus.* xx. p. 129 (1898: Wetter); *op. cit.* xxii. p. 247 (Wetter), Taf. 3. fig. 1 ♂, 2 ♀ ♀).

Hitherto only known from three specimens in the Leyden Museum.

I have nothing to add to Dr. Finsch's descriptions. Mr. Kühn sent:

5 ♂♂, 6 ♀♀, Wetter, September, October 1902. (Nos. 5636—5641, 5755, four without numbers.)

♂: "Iris burnt-sienna red, bill black, feet plumbeous." ♀: "Iris blackish brown (chocolate, burnt-sienna, scarlet), feet (dark) plumbeous, bill black."

DICRURIDAE.

136. **Dicrurus densus** Bp.

Dicrourus densus Bonaparte, *Consp. Av.* i. p. 352 (1850: Timor. The whole diagnosis is "Mus. Lugd. ex Timor. Major.)

Chibia densa Finsch, *Not. Leyden Mus.* xxii. p. 248 (Wetter)

5 ♂♂, 4 ♀♀, Wetter, 15. iv. 1901; September, October 1902. (Nos. 3770, 3771, 5522—5525, 5558, 5667, 5667A.)

"Iris scarlet, vermilion, pale reddish brown, in a young bird dark coffee-brown, bill and feet black."

STURNIDAE.

137. **Calornis kuehni** spec. nov.

♂ ad. Upper surface and ear-coverts purple, back and rump a little more greenish, sometimes distinctly so, hind-neck and sides of neck also generally more greenish, sometimes with a distinct green collar, wings, tail and wing-coverts dark greenish with very little, if any, purplish tinge. Under-surface purple, middle of throat green, abdomen less purplish, sometimes distinctly greenish. Iris vermilion, bill and feet black. Wing 100½—104½ mm., tail of the same shape as in *minor*, *i.e.* a little rounded, the outer rectrices being only about ½ cm. shorter, measuring about 60—65 mm., bill about 15—17 mm.

♀. Like the ♂, but often back, rump and abdomen greener.

Type: No. 5824, Roma, 25. viii. 1902.

Hab. Wetter, Roma and Moa.

Named in honour of Heinrich Kühn, the successful traveller and collector on the South-West Islands.

This new form is nearest to *C. minor*, from which it differs in having the head, back and abdomen purplish, while *minor* has a purplish collar and the head and back greenish. The middle of the throat is greenish, being quite or nearly uniform purple in *minor*. While our large series of *minor* from Lombok, Sumbawa, Sumba, Timor and S. Celebes is thus easily distinguished, some of the specimens from Djampea approach *kühni*, while one *female* is a most typical *minor*. The Moa specimens are mostly green on back and abdomen, and in some the green gular patch is indistinct.

No doubt *minor* and *kühni* will have to be called by trinomial names and be subspecies of one species, but other forms as well must be embraced; and it is here not the place to pass the whole genus *Calornis* in review, without which, however,

it would be rash to attempt to group the various forms, and therefore I use at present binomials for *kühni* and *minor*.*

Mr. Kühn sent the following specimens of *C. kühni*:

6 ♂♂, 2 ♀♀, 3 not sexed, Wetter, September, October 1902. (Nos. 5489—5491, 5564—5566, 5652, 5653, three without numbers.)

2 ♂♂, 5 ♀♀, Roma, August 1902. (Nos. 5538, 5563, 5823—5825, two without numbers.)

6 ♂♂, 3 ♀♀, Moa, November 1902. (Nos. 6238—6246.)

ARTAMIDAE.

138. Artamus leucorhynchus (L.).

6 ♂♂, 3 ♀♀, Wetter, September 1902. (Nos. 5458—5466.)

Finsch got it from Babber and Wetter.

139. Artamus perspicillatus Bp.

Artamus perspicillatus Bonaparte, *Consp. Av.* i. p. 344 (ex Temminck's MS., Timor).

These specimens are somewhat darker on the abdomen than two from Timor, but I believe the reason is merely that they are in worn plumage, while those from Timor are perfectly fresh and beautiful.

3 ♂ ad., 1 ♂ juv., 5 ♀ ad., Letti, November, December 1902. (Nos. 5922—5925, 6025, 6053, 6054, 6464, 6465.)

"Iris dark brown, bill milky grey or milky blue with black tip, feet blackish or ash-grey."

CORVIDAE.

140. Corvus macrorhynchos Wagl.

Corvus macrorhynchos Wagler, *Syst. Avium*, gen. Corvus, sp. 3 (1827 : typ. loc. Java, cf. Hartert, *Vog. pal. Fauna* i. p. 12).

3 ♂♂, 6 ♀♀, Wetter, 10. iv. 1901, September, October 1902. (Nos. 3755, 5411—5415, 5488, 5651, one without number.)

"Iris dark coffee-brown, bill and feet black."

* Probably there will be four species, *i.e. Cal. metallica* (long-tailed and more brilliant) with a number of subspecies, including *circumscripta*, *Cal. chalybea* (short-tailed and less brilliant) with a number of subspecies, including *minor* and *kühni*, *Cal. obscura* and *Cal. grandis*, besides those called *Aplonis* in the *Cat. B.* xiii.

ON A COLLECTION OF MAMMALS MADE BY MR. J. T. TUNNEY IN ARNHEM LAND, NORTHERN TERRITORY OF SOUTH AUSTRALIA.

BY OLDFIELD THOMAS, F.R.S.

BY the kindness of the Hon. Walter Rothschild I have been privileged to work out the large collection of Mammals made by Mr. J. T. Tunney in Arnhem Land during 1902 and 1903. This is a region hitherto very badly represented in the British Museum, and Mr. Tunney's fine series is therefore of special interest.

With regard to novelties, it so happens that a young Norwegian, Mr. Knut Dahl, made, in 1894–96, a large collection of Mammals for the Christiania Museum in very much the same region as the present series comes from, and these were worked out by Dr. R. Collett, by whom several new forms were described,* the most noticeable being the remarkable Rock-Phalanger *Pseudochirus dahli*. Dr. Collett's paper contained thirty-one species, and to these Mr. Tunney has added three new ones, the striking black Kangaroo, *Macropus bernardus*, *Mus tunneyi*, and *Phascogale bella*. To certain of the other forms obtained by both collectors I have thought it necessary to give new names, while Mr. Tunney's series of the Rock-Wallaby hitherto known as "*Petrogale*" *concinna* has enabled me to make some observations on its dentition, necessitating its separation as a distinct genus.

Thanks to Mr. Rothschild's generosity, the British Museum has been permitted to retain a practically complete set of the specimens, while another series will be preserved in the Perth Museum, Western Australia, by whose curator, Mr. Bernard Woodward, Mr. Tunney's expedition was arranged.

1. **Pteropus scapulatus** Peters.

♂ 688. ♀ 687. South Alligator River.

2. **Canis dingo** Blum.

Two males. South Alligator River.

3. **Conilurus hirsutus** Gould.

♂ 1368, 1406, 1413, 1414, 1417, 1422, 1424, 1471, 1472, 1473, 1474. ♀ 1415, 1418, 1419, 1421, 1423, 1468, 1470, 1475, 1476. South Alligator River.

4. **Conilurus macrurus** Peters.

♂ 1139. ♀ 88. Nellie Creek, and two specimens unlabelled.

This magnificent Jerboa-rat had not been previously represented in the British Museum.

I see no reason to doubt that Ramsay's *Hapalotis bowerí* is synonymous with Peters's *H. macrurus*. The type of the latter is said to have been in changing pelage, and the short fresh hairs of the back to be "glänzend rostbraun," a colour

* *P. Z. S.* 1897. p. 317.

which is characteristic of the species, but is not shown in the figure. The brown metapodials of the plate are apparently incorrect, as judged by Peters's statement "manibus pedibusque albis."

5. **Conilurus penicillatus** Gould.

♂ 1363, 1365, 1366, 1371, 1373, 1375, 1377, 1381, 1389, 1391, 1394, 1395, 1399, 1406, 1408, 1409, 1412, 1425, 1427, 1487. ♀ 1361, 1364, 1367, 1369, 1374, 1376, 1378, 1379, 1380, 1383, 1384, 1385, 1387, 1392, 1393, 1397, 1398, 1426, 1507, 1508. South Alligator River.

"Caught in long grass on plain during day." "Caught in hollow tree."—J. T. T.

About one-third of these specimens have the terminal inch or more of the tail prominently contrasted pure white. There are no intermediate specimens, and it would be natural to suppose that the white-tailed form was specifically different from the black-tailed one, but in all other respects, in size, colour, and skull-characters, the two agree so precisely that in the absence of any evidence as to their local segregation, I am compelled to follow Dr. Coltett's example and place them all under one heading.

Gray's *Hapalotis hemileucurus*† would appear to represent the white-tipped form.

6. **Mus tunneyi** spec. nov.

♀ 685. Mary River; and two unlabelled specimens.

A medium-sized rat, with a short tail and whitish belly.

Size rather less than in *Mus rattus*. Form stout and strong. Fur thin, not spinous; hairs of back about 9-10 mm. in length; a certain number of longer piles, about double this length, present on the posterior back. General colour above uniform sandy buffy, rather darker along the dorsal area, clearer along the sides; the slaty bases of the hairs showing through. Undersurface white, or creamy white, the hairs white to their bases; line of demarcation on sides not strongly defined. Head like body. Ears rather short; pale brown, not contrasting with the general colour. Outer side of limbs like body, inner like belly; upper surface of hands and feet white. Tail short, hardly longer than the body without the head, fairly well haired, its rings of scales about 10 to the centimetre; dark brown above, scarcely lighter below.

Skull broad and stoutly built, almost suggesting that of a small Nesokia. Muzzle short, nasals not hiding the incisors from above. Interorbital region narrow, its edges with a well-defined upturned bead which is continued back across the parietals, where it is evenly convex outwards, to the outer corners of the interparietal. Palatal foramina not widely open, extending back to the level of the anterior lamina of m^1; hinder edge of palate level with the back of m^3. Bullae unusually large and swollen, evenly rounded. Molars broad, with well-defined tubercles; m^2 with a large antero-internal supplementary cusp, and a rudimentary antero-external one; m^3 with a large antero-internal one.

Dimensions of the type, measured in skin: Head and body, 150; tail, 105; hindfoot, s.u., 30; ear, 18 mm.

Skull, greatest length 36; basilar length, 31; greatest breadth, 20·3; nasal length, 12·3; interorbital breadth, 5·2; greatest divergence of parietal ridges, 13·5;

† *P. Z. S.* 1857. p. 243.

palate length, 17; diastema, 10; palatal foramina, 7·4; length of bullae, 9·5; length of upper molar series, 7.3 mm.

Hab. Mary River, Northern Territory.

Type: Female. No. 685. Collected September 13th, 1902, by Mr. J. T. Tunney, in recognition of whose excellent collecting work the species is named.

This stoutly built short-tailed rat may be readily distinguished from any of its Australian allies by its proportions and its white belly, most of the species having grey bases to their belly hairs.

7. **Macropus antilopinus** Gould.

♀ 525. Burundie.

♂ 526. Edith River.

♂ 528, 529, 531. ♀ 530. Margaret River.

♂ 665, 669, 671, 678, 1442, 1454, 1459, 1462. ♀ 670, 672, 1444, 1448, 1449 1452, 1457, 1461, 1463. South Alligator River.

♂ 1036. ♀ 1035. Eureka.

♀ 1465. Union River Creek.

It is a curious fact that in the wearing down and crushing of the anterior cheek teeth so marked in this Kangaroo the small and delicate "p 4" often stands its ground after the much larger first molar succeeding it has been worn down or dropped out. The anomalous condition of a jaw possessing a premolar followed by three molariform teeth only may therefore occasionally be found.

The striking sexual difference in the pattern of coloration in this Kangaroo is worthy of special remark, for at first sight the two sexes appear to be of different species. Gould's figure in his Monograph of Macropodidae shows very well the dark crown, greyish face and parti-coloured ears of the female, but the same plate as republished in the *Mammals of Australia* has been spoilt in the colouring, the head being hopelessly wrong in several respects, notably in the sharp separation of the upper from the lateral colour of the head, and in the ground colour of the cheeks. Nor is the enlarged figure of the head in the same work any better. On the other hand, the uniform foxy red of the head and ears of the male is well shown in both works.

8. **Macropus robustus alligatoris** subspec. nov.

♂. No. 1455. July 2nd, 1903. South Alligator River.

Type: "Chackaru" of natives. "Iris brown."—J. T. T.

Fur nearly as short and close as in *M. r. woodwardi*, much shorter than in the other subspecies. Hairs of centre of fore-back and nape reversed forwards to the crown from a whorl on the withers, as in *M. r. woodwardi*.* General colour somewhat as in *M. r. erubescens*, but less richly rufous above, and duller below; fore-back a dull vinaceous fawn, darkening to a brownish fawn on the rump. Neck, crown, and back of ears like fore-back, long hairs of inner side of ears whitish. Muzzle and cheeks dull brown, an indistinct whitish whisker mark present. Centre of chin with a prominent dull brown patch. Throat, chest and belly dull brownish white, passing laterally and below into vinaceous fawn. Arms like fore-back, darkening on the digits nearly to black; hind-limbs proximally like the rump; the

* At least this is the case in the type, but Dr. Collett informs me that the fur in his two specimens (female and young) is directed as in *M. r. erubescens*.

feet paler fawn, but becoming dark reddish brown on the base, and black on the ends of the central digits. Tail short-haired, dull fawn, its base whitish below.

Skull as in other members of the *robustus* group.

Approximate dimensions of the type, measured on the skin :—

Head and body, 1100 mm.; tail, 850; hindfoot s.u. 283, c.u. 296; ear, 105.

Skull, greatest length 175 mm., basal length 155; greatest breadth 91; nasals 66 × 26; constriction 16; diastema 34; palate length 107; combined length of three posterior cheek teeth, 37 mm.

This fine Kangaroo, the representative of *M. robustus* in North Australia, is most nearly allied to the South Australian *erubescens*, but it is duller-coloured, both above and below, has fawn-coloured instead of blackish backs to its ears, and has shorter fur. The type, as in *M. r. woodwardi*, has its nuchal hairs reversed, but this character would seem to be inconstant.

9. **Macropus bernardus** Rothsch.

Dendrolagopsis woodwardi Rothschild *Noc. Zool.* 1904, p. 414 (*nec Macropus robustus woodwardi* Thos., 1901).

Macropus bernardus id., op. cit. No. 4.

♂ 1443, 1445, 1480, 1481, 1482, 1483, 1484, 1485. S. Alligator River.

"Caught in high granite ranges; difficult to procure."

Deceived by the peculiar Dendrolagus-like look of this interesting black (or rather chocolate-coloured) Kangaroo, Mr. Rothschild formed a special genus for its reception; but he has since rightly recognised that it should be considered a member of the genus *Macropus*.

It is, however, none the less a most striking and remarkable discovery, the finest that has been made in Australia for many years, and the organisers of Mr. Tunney's expedition are to be congratulated on so valuable a result.

The skull of *M. bernardus* is very like that of *M. robustus*: it is, however, smaller, more lightly built, and notably lower in side view, the height of the muzzle at the diastema and of the brain-case and pterygoids being both markedly less. The posterior nares are in consequence also much lower. The nasal notch is somewhat deeper, the overhang of the nasals being about 15 mm., as against 11 mm. in the larger skull of *robustus*.

The dentition is quite normal, and the diagnostic teeth i^3 and the premolar are of the dimensions and structure of those of *M. robustus*.

The measurements of an adult *male* skull are as follows :—

Greatest length, 153; basal length, 139; greatest breadth, 85; nasals, length, 64, breadth behind, 24; constriction, 17; diastema, 31; palate length, 95; length of palatal foramina, 9; height of muzzle at anterior end of premolar, 26; height of posterior narial opening, 14 mm.

*Teeth.**—Horizontal length of i^3, 10; of "p^4" (Catalogue notation), 8·5; of three anterior molariform teeth, 32 mm.

10. **Macropus agilis**, Gould.

♂ 1441. ♀ 1450, 1453, 1456, 1458, 1460, 1464. South Alligator River.

11. **Petrogale brachyotis**. Gould.

♂ 666, 1447. ♀ 1478. South Alligator River.

♂ 1167, 1169, 1170. ♀ 1165, 1166, 1168, 1171. Nellie Creek.

* In a younger specimen, with the teeth unworn.

12. Peradorcas (g. n.) concinna Gould.

♂ 1160, 1161. ♀ 1158, 1159. Nellie Creek. And two young, unlabelled. In granite ranges.

Up to the date of the Catalogue of Marsupials the only specimen of "*Petrogale*" *concinna* available for examination was the type, and, peculiar as the dentition seemed, it was impossible to determine whether or not this single specimen was abnormal.* Now, however, the study of Mr. Tunney's material, combined with a number of skulls obtained by Dr. Dahl and kindly lent by Dr. Collett, convinces me that this little Kangaroo should have a special genus formed for its reception.

It may be described as follows:—

General characters as in *Petrogale*, but the molars increased in number, seven at least on each side and probably more, falling out in front and renewed behind as in the Manatee (*Trichechus*).

Skull as described in the *Catalogue* (*l.c.*).

The above remarkable characteristic of the molar dentition, only found elsewhere in the Manatee,† is not easily seen on any single specimen, and has not therefore been previously recognised. A normal adult Kangaroo, whether *Petrogale* or other genus, has four molars,‡ increasing in size backwards, with a narrow p^4 in front of them, the latter having replaced a small similarly-shaped p^3 and a square mp^4 at the tooth-change. But in the type of *P. concinna*, which now proves to be quite normal, the most anterior tooth is molariform, and is succeeded by four other similarly-shaped teeth, with indications of where a fifth might have been later developed. This square anterior tooth, about which I expressed no opinion in the Catalogue, was definitely accepted by Dr. Collett § as "p^4." But now the true p^4, as in other genera, proves to be a narrow cutting tooth, which is shed soon after eruption, and is therefore seldom found in position, the only case among the nine skulls before me being in skull No. 1318 of the Christiania Museum, where it was taken for p^3 by Dr. Collett.‖ The young examples of the present collection prove this determination clearly, for below the normal narrow p^3 and square mp^4 an equally narrow p^4 can be extracted from the jaw.

Then, to solve the problem as to what the square front tooth of the type really is, a careful comparison of the sizes of the teeth, carried out on the same

* See *Cat. Mars. B. M.* p. 71. 1888.

† See Thomas & Lydekker, *P. Z. S.* 1897. p. 595. See also Hartlaub, *Zool. Jahrb.* i. p. 1. 1886.

‡ For the sake of clearness the numeration of the teeth, both molars and premolars, is here described as in the Catalogue and in Dr. Collett's paper—*i.e.*, as though the following were the formula—

$$\text{P.}\left\{\begin{array}{l} 3.\ \ 4 \\ \quad\ \ 4 \\ \hline \quad\ \ 4 \\ 3.\ \ 4. \end{array}\right. \qquad \text{M}\left\{\begin{array}{l} 1.\ \ 2.\ \ 3.\ \ 4 \\ \hline 1.\ \ 2.\ \ 3.\ \ 4 \end{array}\right.$$

but later researches (cf. Lydekker, *P. Z. S.* 1899, p. 922) indicate that the formula should rather be—

$$\text{P.}\left\{\begin{array}{l} \quad\ \ 3 \\ 2.\ \ 3.\ \ 4. \\ 2.\ \ 3.\ \ 4. \\ \quad\ \ 3. \end{array}\right. \qquad \text{M.}\left\{\begin{array}{l} 1.\ \ 2.\ \ 3. \\ 1.\ \ 2.\ \ 3. \end{array}\right.$$

Later again (*Tr. Linn. Soc.* 1904), Mr. Bensley does not accept the latter interpretation, so that the provisional retention of the catalogue formula is the more advisable.

§ *P. Z. S.* 1897. p, 326.

‖ This tooth is 5·0 mm. in length, P^3 being only about 4·1.

lines as in the paper on the Manatee (above quoted), indicates that this tooth cannot **possibly** have been anterior to m^1, and is probably much farther back in the series. But even if it is m^3, the four teeth behind it bring up the total to seven as a minimum, while there is no indication to show that the number is not far more, as indeed I think to be the case. The oldest specimen before me has not ceased to produce fresh teeth behind, the general tooth-row has the peculiar parallel-sidedness characteristic of the Manatee, and theoretically it is only natural that, if the continuous growth of additional teeth gets once started, it might go on throughout the life of the animal.

How any more exact knowledge of the number of teeth actually produced and shed is to be obtained I do not know, for the teeth are too equal-sized for the method used with the Manatee (and very vague then) to be of any further use. The only possibility would be for a young specimen in captivity to have its most posterior tooth marked, and then a later examination would show how many and at what rate further teeth came up behind the marked one.

That a single form in the large family Macropodidae should have taken on this remarkable specialisation in tooth development is a most interesting fact, and is strongly confirmatory of the views as to the non-primitiveness of the Manatee's dentition put forward by Mr. Lydekker and myself in the paper above referred to.

13. **Onychogale unguifera** Gould.

♀ 533. Brock's Creek.

14. **Trichosurus vulpecula arnhemensis** Coll.

♂ 520, 524. ♀ 521, 1519. Hall's Creek.

♂ 667, 1351, 1519. South Alligator River.

♂ 1040, 1043, 1047, 1155, 1352, 1353. ♀ 1037, 1042, 1044, 1154, 1350. Eureka.

15. **Pseudochirus dahli** Coll.

♂ 1150, 1152, 1153, 1154. ♀ 1147, 1148, 1149, 1151. Nellie Creek.

♂ 1491, 1493, 1494, 1496, 1497, 1498, 1501, 1503. ♀ 1354, 1490, 1492, 1495, 1499, 1500, 1502, 1504. South Alligator River.

16. **Petaurus breviceps** Waterh.

♂ 1429, 1431, 1434, 1436, 1437, 1438. ♀ 1428, 1430, 1432, 1433, 1435, 1439, 1440, 1509. South Alligator River.

Topotypical of *P. ariel* Gould.

17. **Perameles macrura** Gould.

♂ 682, 1411. South Alligator River.

Three without particulars.

18. **Perameles aurata** Rams.

♂ 677, 1390. ♀ 680. South Alligator River.

♂ 517. Hall's Creek.

Five skins without particulars.

These specimens represent a small form allied to *P. obesula*, to which latter

species Dr. Collett referred the examples collected by Dr. Dahl. Not knowing of any bandicoot of this type from North Australia in 1888, I placed *auratus* as a synonym of *macrura* in the Catalogue of Marsupials, but I now owe to the kindness of Mr. E. R. Waite the measurements of the typical skull preserved in the Macleay Museum at Sydney, and these show that it belongs to the *obesula* group. The following are the most important measurements of Dr. Ramsay's type, as sent by Mr. Waite :—

Greatest breadth of skull 23·5 : nasals 19·2 × 4·0 ; palate, length 28·1, breadth outside m^3 14·4, inside m^3 9·0 ; palatal foramen 5·4 ; basi-facial axis 39·0 ; teeth, canine to m^1 19·6, length of p^1 2·2, molars $^{1\text{-}3}$ 8·7.

These measures correspond closely with some of the smaller examples of the present series, so that, in the absence of topotypes, it seems advisable to use Dr. Ramsay's name. The small species from Barrow Island differs from these specimens by the smaller size of its bullae.

The young skin from Victoria River, Northern Territory, presented by Dr. J. R. Elsey in 1857, and referred in the catalogue to *P. macrura* (specimen *e*) proves on the extraction of its skull to be an example of the present species.

P. aurata, besides its conspicuously smaller size, is of a somewhat richer and more fulvous colour than *P. macrura*.

19. **Dasyurus hallucatus** Gould.

♂ 1140, 1142, 1143. ♀ 1135, 1141, 1144. Nellie Creek.
♂ 1355, 1357, 1358. ♀ 1359, 1360. South Alligator River.

20. **Phascogale penicillata pirata** subsp. nov.

♂ 1388, 1410. ♀ 1402, 1404. South Alligator River.
One without label.

General characters and appearance of the true *Ph. penicillata*, but smaller, paler and with certain tooth differences.

Size markedly less than in *penicillata*, as shown by the skull dimensions. General colour above "smoke-grey" (Ridgway), therefore considerably paler than the dark cinereous grey of *penicillata*. Under-surface dull whitish, not sharply defined laterally ; the hairs mostly grey at their bases. Outer side of limbs grey, like flanks ; inner side whitish, like belly ; upper surface of hands and feet white, with an occasional slight encroachment of brown on to the metapodials. Tail drab-grey or brownish grey for about two inches at its base, the remainder broadly tufted with black.

Skull very like that of *penicillata*, though markedly smaller ; nasals rather broader in proportion, supraorbital edges more strongly ridged ; bullae smaller.

Teeth : Incisors less disproportionate than in *penicillata* ; i^1 rather smaller, and i^2 but little larger than i^3 and i^4 ; the enamel-covered portion of i^2 is only about 1·2 mm. in vertical diameter, as compared with about 2 mm. Similarly below the crown of the anterior incisor only measures about 1·5 mm. horizontally, as against 2·3. Last lower premolar little or not smaller than the first, while it is conspicuously smaller in *Ph. penicillata*.

Dimensions of the type, measured in skin :—

Head and body, 200 ; tail, 180 ; with hairs, 205 ; hindfoot, 32 mm. Skull (of Dr. Elsey's specimen) : basal length, 42 ; zygomatic breadth, 27·5 ; nasals,

16 × 7·5 ; intertemporal breadth, 7 ; palatal foramina, 3·6 × 3 ; palate length, 24 ; length of their anterior molariform teeth, 8·1.

Type : Male, No. 210. Captured May 24th, 1903.

This subspecies is in general appearance exceedingly like the common Brush-tailed Phascogale of temperate Australia, but may be distinguished by the characters above given. A skeleton of it was obtained by Dr. J. R. Elsey during the North Australian Expedition, and was presented by him to the National Museum in 1854. Other examples were collected by Dr. Dahl.

21. **Phascogale bella** spec. nov.

♂ 1401, 1407. ♀ 1405. South Alligator River.

A pale member of the *Ph. flavipes* group.

Size rather larger than in *Ph. flavipes*. Fur close and fine, less woolly than in the allied species ; hairs of back about 6 mm. in length. General colour above, of head, back and sides, a beautiful pale pinkish fawn, nearest to, but darker than, Ridgway's "ecru drab," the rump slightly darker than the fore back. Under surface white, more or less tinged with drab, the slaty bases to the hairs showing through ; line of demarcation on sides fairly well defined. Eyes with lighter marks above and below them. Upper surface of hands and feet white. Tail proportionally longer than in *Ph. flavipes*, well-haired, cylindrical ; its base hairy and coloured like the back ; the middle line of its upper surface pale brownish, its tips inconspicuously blackened and pencilled ; its sides and under surface white.

Skull with the essential characters of that of *Ph. flavipes*, as used in the synopsis in the Catalogue of Marsupials. It is, however, larger, broader and flatter ; interorbital region narrower and more sharply edged ; tympanic portion of bullae larger. Palatal foramen to the centre of the canines.

Teeth as in *Ph. flavipes*, the anterior incisor similarly thrown forward away from the others ; last upper premolar rather more exceeding the anterior ones ; last lower premolar intermediate in size between the large middle and the small anterior one.

Dimensions of the type, measured in skin :—

Head and body, 114 mm. ; tail, 108 ; hindfoot, 22 ; ear, 17. Skull : greatest length, 31 ; basal length, 28 ; zygomatic breadth, 18 ; nasals, 11 × 3·7 ; interorbital breadth, 5·6 ; palate length, 16 ; combined length of three anterior molariform teeth, 5·6.

Hab. South Alligator River.

Type : Male, No. 1407. Collected May 25th, 1903.

This very pretty little Pouched Mouse looks externally so entirely different from the common *Ph. flavipes*, that one would not suspect any close affinity between the two, but the skull and dentition are essentially similar to those of that species.

In one of the specimens the crown is a great deal darker than the back, but this appears to be due to change of fur.

22. **Tachyglossus aculeatus** Shaw.

♀ 1132, 1134, and one unlabelled. Nellie Creek.

SOME NEW ORIENTAL *ANTHRIBIDAE*.

BY KARL JORDAN, Ph.D.

1. **Xenocerus lautus** spec. nov.

♀. Black, densely covered with a clayish tomentum, marked with black. A mesial band on head, a spot behind eye, a kind of X on each side of pronotum formed by two lines extending from apex to base and connected laterally behind apex and at the carina with a subventral vitta, on elytra a patch round scutellum, shoulder-angle, a lateral spot at basal fourth, an irregular dorsal patch on each elytrum, and numerous dots in the alternate interspaces, a mesial vitta at the apex of the pygidium, an irregular mesial stripe and some lateral spots on breast and abdomen, a spot on femora near base, a minute one near apex, a spot near base of tibiae, apex of tibiae and tarsal segments and of ninth antennal segment, part of antennal segments 1 to 7 and the whole tenth and eleventh, black.

Head with a deep mesial sulcus, which extends on to rostrum, where it is forked by the interposition of a short mesial carina, which is itself divided again by an apical mesial groove. Antenna reaching beyond shoulders, segment 8 one-third shorter than 4, 9 = 4, 11 one-fourth shorter than 3. Pronotum longer than broad, flattened above, nearly straight at sides from base to the end of the lateral carina, suddenly constricted. Elytra cylindrical, not depressed, finely striped. Pygidium transversely impressed at apex. Prosternum with deep angulated furrow before the coxae; mesosternal process narrow, sulcate, triangular. First foretarsal segment nearly half the length of the tibia.

Length, 25 mm.

Hab. Mauson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

1 ♀.

Nearest to *N. everetti* (1894) Jord. The species bears a close colour-resemblance to *Eugigas harmandi* (1891) Lesne.

2. **Mecotropis cylindricus** spec. nov.

♂. Black, covered with a dense cinereous tomentum, irregularly spotted with black; sides of head and prothorax more extended black than cinereous, a patch above and another below shoulder black, black dots in middle of elytra partly merged together to form an ill-defined patch; tarsal segments cinereous in basal half.

Middle sulcus of rostrum extending beyond eyes; antennal groove prolonged to eye, accompanied above by a carina. Eye truncate in front, very feebly emarginate, not sinuate as it is in *marmoreus* (1894) Jord. Second segment of antenna reaching middle of eye. Prothorax as in *fruhstorferi* (1894) Jord. Elytra cylindrical, not depressed at suture. Pygidium broader than long. The two grooves on underside of rostrum)(-shaped, but separate. Prosternum with deep transverse sulcus, which is angulate, not interrupted. Anal segment truncate. An olive-brown velvety double spot in middle of metasternum.

Length, 19 mm.

Hab. Mauson Mts., Tonkin, 2000—3000 ft., April, May (Fruhstorfer).

1 ♂.

3. **Mecocerus callosus** spec. nov.

♀. Black, clothed with a short olive-black tomentum. Antennal segments 3 to 6 at apex and the whole of 7 and 8 pubescent-white. On each side of pronotum there is a basal spot close to middle line, almost contignous with the spot of the other half, another basal spot near lateral angle, several small dots round a discal tubercle, three small spots between the lateral basal one and the apical margin, and an elongate apical spot near middle line, this latter spot continued over the head, all tawny-ochraceous, not conspicuous. Elytrum tesselated with dots of the same colour, a few white spots in third and fourth interspaces before middle, and in third again behind middle, the anterior white spots formed by raised pubescence; alternate interspace with black tufts, a postmedian one in third interspace being the longest. Underside dotted with grey, the spots confluent on abdomen. Femora with three, tibiae with two grey rings; first tarsal segment with large grey subbasal ring, fourth with a median one.

Mesial carina of head slight but distinct, interrupted on frons by a deep slit, but reappearing behind this slit. Pronotum slightly depressed on disc, irregularly grooved laterally, with a rounded prominent tubercle at each side of mesial line before the carina; the latter subangulate before the lateral curve. Elytra strongly convex, short, the alternate interstices bearing the black pustules distinctly but slightly elevate. Prosternum shallowly impressed, raised at each side of the impression, without distinct transverse sulcus before the coxae.

Length, 12 mm.; breadth, 6 mm.

Hab. Mauson Mts., Tonkin, April—May, 2000—3000 ft. (Fruhstorfer).

1 ♀.

The spots of the upperside, which in this specimen are tawny-ochraceous and rather indistinct, may possibly be grey in other specimens.

4. **Physopterus oculatus** spec. nov.

♂ ♀. Black-brown, rufescent, densely clothed with a greyish clay pubescence, irrorated with brown; an ill-defined stripe commencing on occiput at upper edge of eye continued to base of pronotum, blackish; a large, slightly transverse, rounded patch just behind middle of elytrum, extending from third stripe to outer margin, velvety black; the pale pubescence round this patch denser than elsewhere on elytrum; antenna rufous, brown at base, club black; legs rufous, femora brownish in middle, tip of tibiae and of first and last tarsal segments and the whole second and third tarsal segments brown-black.

Rostrum coarsely rugate-punctate, middle sulcus extending to occiput. Eye oblong, lateral. Frons anteriorly broader than the eye is high, measured in a frontal view. Segments 7 and 8 of antenna pubescent-white, 3 one-third longer than 4, 9=4, 10=8. Prothorax almost twice as wide at the carina as at the apex, gradually narrowed from the carina forwards; carina very strongly curved laterally, as in *alboguttatus* and *sumatranus*, more evenly curved than in *biplagiatus*. Elytra strongly convex, parallel from base to apical declivity; feebly striate, the stripes indistinctly punctate. Underside dispersedly punctate. First abdominal segment of ♂ with a mesial, subbasal, acute, cariniform tubercle; a trace of a tubercle also on the second segment; no velvety double spot on metasternum. Midtibia of ♂ with a long tooth before the apex on the underside; hindtibia of ♂ somewhat curved.

Length, 9 to 10 mm.

Hab. Manson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

4 ♂♂, 1 ♀.

5. **Acorynus tonkinianus** spec. nov.

♂ ♀. Black, covered with a sparse olivaceous tomentum; pronotum and alternate interspaces of elytra dotted with fulvous; a large subbasal fulvous patch common to both elytra, narrowed laterally, composed of confluent spots; subbasal callosity blackish; sides of sterna marked with fulvous, especially the metathoracic episternum; abdomen with two rows of fulvous dots on each side; a broad ring on tibiae and the first tarsal segment excepting apex rufous, covered with a luteous pubescence, in ♂ (*type*) also femora partly rufous; antenna rufescent.

Rostrum with five prominent dorsal carinae nearly as in *sulcirostris* (1833) Gylh., the middle one interrupted beyond middle, stopping at base in ♂, continued in ♀ as a fine line over frons; the others abbreviated beyond middle; a short apical carina between the second and third. Eyes subapproximate in ♂. Frons narrowing anteriorly in both sexes. Segment 10 of antenna broader than long, shorter than 8. Prothorax dispersedly punctured, deeply grooved transversely on disc; carina slightly angulate in middle, very broadly rounded at sides, little produced forwards. Elytra finely punctate-striate, the alternate interspaces, which appear deeper black than the others in certain lights, somewhat elevate. Prosternum dispersedly punctured. Anal sternite raised mesially in ♂, the raised part crowned by a transverse carina, which projects distad; the segment rounded in ♀.

Length, 10 to 11 mm.

Hab. Manson Mts., Tonkin, April—May, 2000—3000 ft. (Fruhstorfer): Chiem-Hoa, Central Tonkin, August—September (Fruhstorfer).

1 ♂, 3 ♀♀.

6. **Acorynus mosonicus** spec. nov.

♂ ♀. Black, pubescence olive-black above, grey beneath; upperside marked with fulvous—namely, a thin mesial line on occiput, a superciliary stripe and the whole frons, an interrupted mesial vitta on pronotum, a conspicuous median dot on each side, three dots in a row farther laterally, and another spot above the lateral carina, a number of dots and dashes on the elytra, partly confluent, variable in size; a spot behind shoulder more conspicuous. Base of tibiae with a rufous spot, covered with a luteous pubescence; tibiae blackish or rufescent. Rostrum half as long again as broad, with five dorsal carinae, densely punctured. Frons in ♂ as broad as the interspace between the mesial and submesial carinae, in ♀ nearly twice as broad. Basal segments of antenna rufescent, the following rufous at the joints, segment 10 half as long again as broad.

Head and prothorax densely and coarsely punctate; no transverse sulcus on pronotum, carina concave, subangulate. Elytra parallel, flat above, very strongly striate-punctate, subcostate. Pygidium rounded in ♀, subtruncate in ♂. Prosternum and sides of metasternum with large punctures. No tubercle on first abdominal segment of ♂.

Length, 7 to 9½ mm.

Hab. Manson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

A series.

Somewhat similar to *carinifrons* (1895) Jord. and *punctatus* (1894) Jord., but the eyes much farther apart.

7. **Litocerus sticticus** spec. nov.

♂. Black; underside, femora and rostrum pubescent grey; a spot near base of tibiae, edge of eye, scutellum, edge of pygidium, and a number of spots on the pronotum and elytra also grey; the spots of pronotum arranged as follows: a widely interrupted mesial line, a spot on disc at end of transverse sulcus, three dots in a row situated more laterally and another above the lateral carina; the spots of the elytra mostly elongate, especially those near the base, which stand in a ring round the subbasal callosity, a round spot beyond middle between third and fifth interspaces more conspicuous than the others. Tarsi brown.

Rostrum flattened at apex, the three middle carinae stopping at this depression. Eyes approximate, the frons being anteriorly as broad as the first antennal segment. Segment 3 of antenna half as long again as 9, 10=9 one-fourth longer than 8. Prothorax strongly rounded laterally, widest behind middle, rather broader than long, finely and dispersedly punctured, with a deep transverse sulcus before middle; dorsal carina straight, slightly angulate in middle, very strongly rounded laterally. Elytra strongly convex, gradually narrowing from base to apical declivity, then more strongly. Prosternum punctured. First abdominal segment with mesial tubercle.

Length, 6 mm.

Hab. Mauson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

1 ♂.

8. **Sympaector fruhstorferi** spec. nov.

♂ ♀. Black, clothed with an olive pubescence, spotted with ochraceous tawny and black. A mesial vitta from insertion of antennae to base of pronotum, another commencing beneath the eye and ending also at base of pronotum, interrupted or constricted in the middle of the latter, the alternate interstices of the elytrum, a triangular lateral vitta on pygidium and a thin, anteriorly abbreviated, mesial one, a lateral vitta on prosternum and another just at the carina, the greater part of the meso- and metasternum, two series of spots on each side of the abdomen, with minute dots between the rows, the intercoxal lobe of the first abdominal segment, two broad rings on femora, one on tibiae, and the first segment of each tarsus, except extreme base and tip, ochraceous fulvous. An interrupted vitta on pronotum situated on each side between the middle and lateral ochraceous tawny stripes velvety black. Elytra with sharply marked velvety black spots: one at suture before middle, and twelve altogether in third, fifth, seventh, and ninth interspaces.

Rostrum and frons without mesial carina. Antenna of ♂ about four times the length of the body, of ♀ reaching to apical third of elytrum. Pronotum more conical than in *S. cittifrons* (1879) Kirsch, conspicuously sinuate before transverse carina. Elytra less depressed than in *cittifrons* and shorter. Prosternum with large punctures laterally at base.

Length, 10 to 11 mm.

Hab. Mauson Mts., Tonkin, April—May (Fruhstorfer).

1 ♂, 2 ♀ ♀.

9. **Nessiara armata** spec. nov.

♂. In colour and pattern similar to *N. lineola* (1879) Kirsch, slenderer, pronotum more variegated with brown, occiput without distinct brown spot.

Eyes approximate, frons anteriorly less than one-fourth the width of the rostrum. This without mesial carina. Occiput coarsely rugate-punctate. Pronotum very densely and coarsely punctured ; carina straight above, evenly arched laterally. Elytra coarsely striate-punctate, basal margin less projecting forward than in *lineola* ; subbasal convexity distinct ; sutural area not depressed ; apical declivity gradual ; third interspace a little elevate. Pygidium longer than broad, rounded. Metasternal sternum with a prominent subapical tubercle on each side of the mesial depression.

Length, 6½ mm.

Hab. Mauson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

1 ♂.

10. **Nessiara mosonica** spec. nov.

♀. Similar to *N. armata* ; middle of pygidium and of femora and apex of tibiae brown. Rostrum longer than in *armata*, with smooth mesial carina. Frons half the width of the rostrum. Pronotum not distinctly punctured on disc, with a few coarse punctures laterally ; dorsal carina convex before the lateral curvature. Elytra broader than in *armata* ; the postmedian dash in the third interspace clayish like the other tesselations, not white.

Hab. Mauson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

3 ♀♀.

11. **Asemorhinus sportella** spec. nov.

♂♀. Blackish brown, legs and antenna partly rufescent ; pubescence drab, elytra tesselated with black and some grey spots ; club of antenna and tip of tibiae black ; a spot on femora brown.

Rostrum more than twice as long as broad at base, dilated towards end, depressed along middle, with a mesial carina which disappears on occiput. Antenna longer than in *A. nebulosus* (1891) Sharp, segment 10 shorter and broader. Prothorax longer than in *A. nebulosus*, depressed before carina, mesially somewhat elevate ; no coarse puncturation ; dorsal carina slightly angulated in middle, lateral carina continued to near apex, angulate, the apical portion less distinct. Elytra twice as long as broad, parallel, somewhat flattened above, very strongly striate-punctate, alternate interspace somewhat raised. Prosternum much less coarsely punctured than in *nebulosus*. Mesosternal process convex.

Length, 14 mm.

Hab. Pontianak, Dutch Borneo (*type*) ; Kuching, North Borneo, August 1898 ; Padang Sidempoean, West Sumatra (Ericsson).

12. **Habrissus tonkinianus** spec. nov.

♂. Rufous brown, antenna and legs paler than body ; underside uniformly pubescent-grey ; upperside brown ; prothorax with some indistinct clayish spots ; elytra tesselated with clayish grey ; tibiae grey, with a basal and a subapical brown ring ; base of first and third tarsal segments grey.

Rostrum twice as broad as long, narrowed from antennae forwards, truncate apical edge somewhat undulate. Frons one-fourth the width of the rostrum ; with three carinae, which extend on to rostrum. Antenna reaching basal third of elytra ; club very slender. Prothorax convex, with four grey spots on brown disc arranged crosswise, rather densely punctured ; carina as in *indicus* (1903)

Jord. Elytra as in *indicus*. Pygidium rounded, slightly truncate. Mesosternum with a mesial patch of four rows of scale-like spines, the patch triangular, entire, but traversed by the impressed mesial line of the sternum. Anal sternite impressed, subtruncate. Midtibia produced into a tooth.

Length, 5½ mm.

Hab. Manson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

1 ♂.

13. **Anthribus wallacei philippinensis** subsp. nov.

♂ ♀. As robust as the Papuan form *A. w. wallacei*, interstices 5, 7 and 9 of elytra not so distinctly tesselated, white spots on apical declivity more prominent, forming a more or less conspicuous transverse patch, which is divided or sinuate at the suture.

Hab. North Luzon (*type*), and Leite, Negros, and Samar (Whitehead).

A series.

14. **Anthribus wallacei malaicus** subsp. nov.

♂ ♀. Much narrower than the other two subspecies, tesselation of interspaces 5, 7 and 9 of elytra not distinct, at least not in basal half.

Hab. Borneo: Kuching, May 1900 (*type*), Baram River, and Pontianak; Sumatra; Malacca.

A series.

15. **Anthribus macrocerus** spec. nov.

♂ ♀. Pubescence pale olive; disc of pronotum marked with grey, with a brown central dot; elytra tesselated with grey and white in the alternate interspaces; tibiae with indistinct brown spot at base and in middle; tip of seventh antennal segment of ♀, the whole eighth and base of ninth white.

Antenna of ♂ about three times the length of the body, segments 3 to 11 long, slender, 2 about three times as long as apically broad, 11 provided at end with a small brush; antenna of ♀ reaching base of elytra, slenderer than in *A. wallacei* (1860) Pasc., second segment longer. Pronotum without tubercles. Elytra cylindrical, without tubercles, seriate-punctate, the stripes slightly impressed. First abdominal segment of ♂ with an ill-defined patch of denser pubescence, a similar patch indicated on second segment. Underside of first and second tarsal segments deep brown, nearly black in apical aspect.

Length, 13 to 16 mm.

Hab. Sikhim.

A series.

Resembles in colour *Phlocobius alternans* (1819) Wied., but the elytra devoid of the grey apical patch.

16. **Anthribus frontalis** spec. nov.

♂. Differs from *A. wallacei malaicus* in the following points: dorsal lateral carina of rostrum less elevate; rostrum, head, and middle of pronotum covered with a clayish ochraceous pubescence, much variegated with white; third interspace

of elytrum with three black tufts, the second and third farther back than in *wallacei* and much farther apart from one another; a black dot before apex, three black raised dots in interspace 5, the first between tufts 2 and 3 of third interspace, seventh and ninth interspaces dotted with black in apical half. Antenna reaching base of elytra, of the type of that of a ♀, segment 2 as long as 1, 3 nearly three times as long as 2. Eye less deeply sinuate than in *wallacei*.

Length, 9 mm.

Hab. East Sumatra.

1 ♂; another in the Munich Museum.

17. **Caccorhinus obscurus** spec. nov.

♂ ♀. Black; antenna rufous; legs and the light pubescent parts of the body rufescent. Pubescence black-brown, mixed with clay; alternate interspaces of elytra tesselated with brown and clay; tibiae (except base and apex) and first segment of mid- and hindtarsi clay; sides of abdomen more densely pubescent than middle.

Rostrum nearly three times as long as broad, with basal mesial impression. False mentum very shallowly sinuate, the edge mesially feebly convex, the lateral angles produced forwards. Antennal segments 2 to 8 short, 3 not longer than 2, a very little shorter than 5, 7 and 8 thicker than the preceding ones, 9 and 10 a little darker in colour than the others, 9 one-third longer than broad, shorter than 11. Prothorax of nearly the same shape as in *lateripictus* (1895) Jord., a little narrower at base. Elytra cylindrical, not distinctly depressed along suture, punctate-striate, the alternate interspaces faintly elevate. Prosternum short, transversely impressed at apex. Metasternum granulose in middle in ♂, abdomen of ♂ impressed, last two segments of ♀ granulose. Foretarsus somewhat dilated in ♂, first segment not longer than second.

Length, 6 to 8½ mm.

Hab. Kalao, south of Celebes, December 1895 (A. Everett).

A series.

18. **Apolecta tonkiniana** spec. nov.

♂. Black; head and pronotum with a clay vitta on each side above, separated on pronotum into spots; elytra and underside of body clay; a transverse band beyond middle of elytra, narrowed and subinterrupted laterally, two subbasal dots on each elytrum, a lateral one at basal third and a subapical one, black; the elytra, moreover, indistinctly dotted with olive. Pygidium clay-colour, with black mesial vitta. Prosternum olivaceous, clayish laterally above coxa. Abdomen with a row of olive lateral dots. Femora olive-black. Tibiae black in apical half or third. Tarsi black; basal two-thirds of first segment pubescent-clay.

Mesial carina of head and rostrum distinct. Pronotum with raised mesial line, cariniform in apical half; puncturation rather dense, but punctures smaller than interspaces; carina as in *aspericollis* (1879) Kirsch, but the curve of the dorsal carina rather more flat. Elytra subcylindrical, scarcely depressed above, gradually declivous behind, much less abruptly than in *aspericollis* and *depressipennis*. Prosternum punctured all over. Abdominal segments 1 to 4 each with two tubercles in middle, 5 hairy.

Length, 11 mm.

Hab. Manson Mts., Tonkin, 2000—3000 ft., April—May (Fruhstorfer).

1 ♂.

19. **Apolecta diversa** spec. nov.

♂. Brown-black; femora, basal two-thirds of tibiae, and antenna rufescent; underside pubescent olivaceous grey, indistinctly spotted with clay-colour at the sides; a clayish ochraceous vitta from antenna over frons to base of pronotum, interrupted in the middle of the pronotum, the two pronotal portions triangular; a cross-like mark in middle of pronotum, a median dot towards the side and a short lateral apical stripe clayish grey; elytra clayish ochraceous, shaded with grey; a halfmoon-shaped spot on subbasal gibbosity, a transverse spot in middle, another just before apical declivity, and several dots scattered over the elytra, the largest of them at and near shoulder, brown: tip of antenna silky white; apex to tibiae and the tarsi black, basal five-sixths of first segment white.

Head rugulose; a thin, channelled, mesial carina. Apical triangular depression of rostrum limited behind by a transverse carina. Pronotum as in *A. nietneri* (1866) Lac., more dispersedly punctured, the carina mesially farther from the base, interrupted. Elytra cylindrical, not depressed as in *A. nietneri*. Prosternum punctured laterally, with very few large punctures in middle. First abdominal segment of abdomen with a double tubercle midway between base and apex.

Length, 8 mm.

Hab. Kuching, North Borneo, January 1900.

1 ♂.

SOME NEW AFRICAN *ANTHRIBIDAE*.

BY KARL JORDAN, Ph.D.

1. **Mecocerus hauseri** spec. nov.

♀. Nearest to *rhombeus* (1886) Qued. ; rostrum rather thicker, eyes a little wider apart, elytra shorter, and pattern different. Tenth segment of antenna nearly as long as eleventh. The following grey lines on upperside : a vitta from base of rostrum across head and thorax to apex of elytra, very narrow on elytra, except at base ; another line on prothorax nearly as in *rhombeus*, but less oblique ; between this and middle line, but closer to the former, a thin short line behind prothoracical carina ; the sutural vitta of the elytra complete ; from it branches off at basal sixth an oblique line which joins laterally another oblique line as in *rhombeus*, this second line being more curved than in *rhombeus* ; the lateral portion of the two fused lines more transverse in *hauseri* than in *rhombeus*, forming an angle with the second line in *hauseri* ; this second line bears in the sixth interspace a short projection, which is the remnant of a line of which further traces are visible between this projection and the outer margin ; a curved line runs from the scutellum across the base of the wing to the outer margin, which it reaches at basal fifth ; lateral edge of wing from this line to apex grey. The three lines of the elytrum meet at the apical angle of the metasternum and are continued as one line along its hinder edge. A streak above anterior coxa, another before midcoxa, a band covering the mesosternal epimerum and continued over the metasternum (where the band is broken), and some small dots on abdomen grey.

Length, 11 mm.

Hab. Togo, West Africa.

1 ♀ ; received from Prof. Dr. Hauser, Erlangen.

Blaberops gen. nov.

♂♀. Similar to *Blaberus*. Antenna of ♂ from two to four times as long as the body, first segment short, thick, second about twice as long as broad, 3 to 9 very long, 10 and 11 about the same length, each about twice as long as 1 + 2, 11 acuminate, with some bristles at the tip ; of ♀ not quite half the length of the body, segment 3 a little longer than 2, shorter than 4 = 5, 7 longer than 6 and nearly twice the length of 8, club as long as 5 to 8, broad, 9 triangular, longer than broad, 10 a little broader than long, rounded-triangular, 11 a little longer than broad, ovate, subtruncate at base. Eye larger and deeper sinuate than in *Blaberus*. Carina of pronotum antebasal, broadly and rather deeply concave in middle, more or less flexed forward at side, angle rounded ; subbasal carina vestigial at side, no basal longitudinal carina. Forecoxae contiguous. Mesosternal process narrow, triangular, rounded at end. Tarsi long, first hindtarsal segment one-fourth shorter than tibia ; foretibia not mucronate, foretarsus not woolly beneath, as is the case in *Blaberus*.

Type : *B. macrocerus* spec. nov.

2. **Blaberops macrocerus** spec. nov.

♂ ♀. Black; antenna (except club), femora and tibiae rufescent or rufous; underside pubescent grey; upperside grey, variegated with brown. Upper edge of antennal groove elevate in ♂. Prothorax as long as broad, widest in middle, the sides being rounded, densely punctate-reticulate. Elytra less abruptly declivous behind than in *Blaberus fallax*, regularly and distinctly punctate-striate. Pygidium longer than broad in ♂, slightly truncate, in ♀ a little shorter than broad, rounded.

Length, 3 to 4 mm.

Hab. Magila, Usambara, 2. vi. 1898 (Legros), *type*; Amagaya, Zululand.

5 ♂♂, 1 ♀.

3. **Anthribus planatus** spec. nov.

♂. Rufescent brown, covered with an olivaceous and a clayish pubescence; a triangular lateral patch on elytrum beginning at shoulder angle and extending to the third interspace, which it reaches before middle, and a transverse band across both elytra before apical declivity, olivaceous, rather indistinct, except in certain lights.

Carina of rostrum prominent. Antenna longer than the body (♂), segments 3 to 5 rather strongly incrassate at apex, and hardly longer than broad. Prothorax longer than broad, rounded at the sides, widest just behind middle, not punctured. Elytra rather flat above, strongly punctate, striate, without tufts, one large tubercle before apex extending from stripe 3 to 8. No punctures on underside. First abdominal segment with a large rounded patch of a clayish ochraceous pubescence.

Length, 14 mm.

Hab. Gold Coast.

1 ♂.

Euphloeobius gen. nov.

♂ ♀. Similar to *Phloeobius*. Antennal groove large, triangular, close to eye, covered, its upper edge being cariniform. Eye sinuate, larger than in *Phloeobius*, twice as long as broad in dorsal aspect, its upper lobe projecting forward over the hinder edge of the antennal groove. Rostrum and false mentum sinuate. Antenna short, not reaching base of prothorax, segment 2 longer than 3, somewhat pyriform, 3 longer than 4, 8 rather thicker than 7, club compact, short, triarticulate, segment 9 hardly longer than apically broad, 10 twice as broad as long.

Carina of pronotum basal, not extending to middle of sides, angle acute. Second segment of tarsi less triangular and third much smaller than in *Phloeobius*.

Type: *E. asellus* spec. nov.

4. **Euphloeobius asellus** spec. nov.

♂ ♀. Brown-black, densely covered with a greyish white pubescence; pronotum, except a large anterior median area and declivous portion of base of elytra cinnamon, mottled with black; elytra more or less faintly tesselated with black and brown, each with or without a black sharply defined spot on disc behind middle; antenna rufescent, club brown-black.

Rostrum more than twice as broad as long, flat, impressed laterally before the eye.

Frons with a short carina. Prothorax twice as broad at base as at apex, with two longitudinal depressions on disc, subcarinate mesially, sinuate at side

before hinder angle; lateral carina stopping at basal third. Elytra cylindrical, half as long again as broad, depressed at basal margin; the rows of punctures not distinct distally; second and third interspace raised behind basal depression; these slight tubercles black. Spine-like bristles at apex of hindtibia and first hindtarsal segment rather long and strong.

Length, 6½ mm.

Hab. Ikutha, British East Africa; received from Prof. Dr. Hauser.

In one of the three specimens I have seen there is a black oblique dash behind the middle of each elytrum (*type*), in a second there is a rounded black patch, while the third individual is devoid of that mark.

5. **Epitaphius lunatus** spec. nov.

Brown-black, covered with a greyish white pubescence; legs rufescent; segments 5 and 6 of antenna and club black, rest white; sides of pronotum and elytra somewhat clayish; pronotum with three abbreviated, not sharply marked, black lateral vittae; scutellum white; elytrum with an oblique clayish patch at base; alternate interstices faintly clayish, the white ones tesselated with black, the black marks in interspaces 3 and 5 long and few in number; an oblong subapical area common to both elytra encircled by a black line which begins in the middle of the sutnre and gradually fades away posteriorly; shoulder black below. First tarsal segment greyish white, black at extreme base, the others black; tibiae with a brown spot at base.

Rostrum twice as broad as long. Segments 3 to 6 of antenna gradually decreasing in length, 7 a very little longer than 6, 9 as long as 3, 10 half as broad again as long. Prothorax convex, rather strongly impressed before base, the impression divided; carina evenly curved from side to side, not angulate, not reaching to middle of sides. Elytra cylindrical, evenly and rather feebly striate; base depressed. Pygidium broader than long. First foretarsal segment nearly as long as the other three segments together.

Length, 6 mm.; breadth, 2½ mm.

Hab. Ikutha, British East Africa.

Two specimens, received from Prof. Dr. Hauser.

6. **Phloeobius lineifer** spec. nov.

♀. Black, densely covered with a luteous grey pubescence; antenna brown-black; tibiae and tarsi brown-black, irregularly ringed with grey; pronotum with two indistinct brown stripes laterally; scutellum and alternate interspaces of elytra whitish grey, first, third and ninth tesselated with black, third from base to middle and fifth from middle to apical declivity quite black.

Rostrum and frons without groove and carina. Antenna short, hardly reaching base of prothorax, segment 2 short, scarcely half as long again as broad, 3 nearly twice the length of 2, only a little longer than 4, shorter than 9, 8 a little longer and broader than 7, 9 asymmetrical, subtruncate at base, here as wide as at apex, 10 also subtruncate at base, 11 longer than broad. Prothorax about one-third broader than long, slightly sinuate laterally before base, narrowed from before middle to apex, with the apical angle projecting, the sides being carinate in front; this frontal carina not continuous with the lateral branch of the basal carina; hinder angle a little over 90°; disc convex in front, feebly depressed behind; anterior edge of pronotum somewhat curving forwards, the prothorax being about

one-fourth longer in middle than at the sides. Elytra cylindrical, slightly raised behind base, but here not tuberculated; third, fifth and ninth interspaces feebly cariniform.

Length, 5½ mm.; breadth, 2¼ mm.

Hab. Mulango, Kitui, British East Africa.

1 ♀, received from Prof. Dr. Hauser.

7. **Phloeobius striga** spec. nov.

♂. Brown-black, shaft of antenna and tibiae rufescent; pubescence lutescent grey; the mesial line, an indistinct lateral discal vitta and sides of pronotum clay-colour, alternate interspaces of elytra also clayish; two dots on pronotum, situated before middle, and scutellum white; frons also whitish; a sharply defined linear spot on the suture before the apex of the elytra deep black; tibiae with vestiges of three brown rings; anterior tarsus brown-black.

Rostrum three times as broad as long, slightly depressed; no longitudinal carina either on rostrum or frons. Antenna reaching base of elytra; segment 3 shorter than 4, but a little longer than 5, 8 as long as 7, 9 and 10 symmetrical, 11 longer than 9. Prothorax nearly as broad at apex as at base, being broader just behind the apical edge than the head inclusive of eyes, faintly depressed transversely above behind the apex and before the base, densely punctate-granulate, hinder angle slightly obtuse, being more than 90°. Elytra cylindrical, alternate interspaces slightly elevate, with small raised spots of black and white pubescence, these spots most distinct in apical third; declivous apex slightly flattened.

Length, 4½ mm.

Hab. Ikutha, British East Africa.

2 ♂♂, received from Prof. Dr. Hauser.

8. **Phloeobius pachymerus** spec. nov.

♂. Brown-black; shaft of antenna rufescent; head, an irregular elongate patch behind the base of each elytrum, apex of elytra (this area sinuate anteriorly at suture), pygidium and sides of breast white; pronotum clayish, mottled with white, with a black central dot of longer pubescence; interspaces 2, 4 and 6 of elytrum distinctly clayish, 1, 3 and 5 grey and tesselated with brown or black, 3 and 5 with three respectively two black raised tufts in apical half, two similar tufts near base in first and third interspaces; lateral edge tesselated with brown; tibiae with three brown spots or incomplete rings.

Rostrum very short, without carina. Antenna reaching base of prothorax, segment 3 asymmetrical, elongate-pear-shaped, 4 and 5 much enlarged, compressed, asymmetrical, little longer than broad, 6 and 7 smaller, but also produced forward, 8 small, not enlarged, 9 triangular, asymmetrical like 10, a little longer than apically broad. Prothorax narrower at apex than at base, but apical angles projecting, the width of the prothorax being here equal to that of the head inclusive of eyes; sides sinuate before hinder angle; the latter acute, with the extreme tip rounded off. Elytra slightly elevate behind base.

Length, 5½ mm.; breadth, 2½ mm.

Hab. Ikutha, British East Africa.

2 ♂♂, received from Prof. Dr. Hauser.

The antenna is unlike that of any other species hitherto described.

AMERICAN ANTHRIBIDAE.

By KARL JORDAN, Ph.D.

THE genus *Allandrus*, erected by Leconte in 1876, is so very close to the Old World genus *Eucleptes* of Schönherr, that its distinctness from this seems to me to be doubtful.

1. Allandrus indistinctus spec nov.

♂. Brown-black, irrorated with white broadened hairs, a widely interrupted mesial line on pronotum, and the scutellum more densely pubescent white; antenna, tibiae, and tarsi rufous, antennal segments brown at apex, club brown, rufous at bases of segments; elytrum with some rufescent spots near suture. Rostrum twice as long as apically broad, flat, feebly impressed at base, densely reticulate-punctate like head and pronotum. Antennal segment 2 longer than 3, 9 more than twice the length of 10, this broader than long, 11 ovate. Elytrum indistinctly spotted with velvety black, deeply punctate-striate, the interspace rather finely punctured. First segment of foretarsus about one-fifth the length of the foretibia, little longer than second segment.

Length, 3 mm.

Hab. Cochabamba, Bolivia (Germain).

1 ♂.

We have a number of ♀♀ from Cochabamba and Brasilia which have a much shorter rostrum than the ♂ here characterised. They belong apparently to two or three more species.

We have received nearly all the species described in this paper from Mons. H. Donckier de Donceel, Paris. Those from Jatahy, Province Goyaz, Brazil, have been collected by Mons. C. Pujol.

The genus *Gymnognathus* is purely Neotropical. The number of species occurring in South America is very large. We have identified all those described, except *signatus* (1833) Gylh., which we do not appear to possess, and *nebulosus* (1874) Motsch., of which the description is insufficient for recognition. *G. ophiopsis* (1833) Dalm. and *decorus* (1853) Perr. are the same according to the descriptions. The variety in structure is so considerable that the genus will ultimately have to be divided up into several genera. The most remarkable structure, we think, is that found in the ♂ of the species described under No. 10. In that insect the ♂ bears on the head a rounded groove of which the edge is raised, giving the insect the appearance of being trepanned.

2. Gymnognathus extensus spec. nov.

♀. Similar to *aurora*. Rostrum longer, narrower, more strongly dilated at apex; frons proportionally wider; prothorax longer, dorso-lateral vitta broader, continuous, angle of carina much smaller, less than 90°, with the tip rounded; sutural area of elytra continued to apical declivity, including a brown postmedian

sutural dot, dilated to seventh stripe behind middle connected with the small apical spots; pygidium shorter, with shorter teeth, brown, marked at each side with a narrow grey vitta.

Hab. Minas Geraës.

1 ♀.

3. **Gymnognathus marianna** spec. nov.

♂. Similar to *G. ricinus* (1855) Jek. A broad red vitta over rostrum and head, not divided on head; mesial vitta of pronotum broader than in *ricinus*, only one lateral vitta above lateral carina; this lateral vitta very narrow, oblique, extending from basal angle to disc; angle of carina 90°, very feebly rounded. Elytra long, a cross-shaped sutural patch clayish grey, with brown central dot, dilated at the base sidewards to shoulder; a spot in apical angle. Basal abdominal segment without the creamy white lateral spot present on segments 2 to 4. Antenna reaching base of elytra. Pronotum densely plicate-reticulate.

Length, 7 mm.

Hab. Jatahy, Goyaz.

1 ♂.

4. **Gymnognathus ada** spec. nov.

♂♀. Pygidium bidentate; anal ventral segment rounded. Brown. Rostrum dilated at apex, nearly twice as long as broad in middle, depressed longitudinally, with strongly marked mesial carina, extending over the frons. This carina is joined at each side at base by an oblique carina (sometimes double), reaching backwards to occiput, which is brown, with a thin mesial and a broader lateral clay vitta. Prothorax conical, a very little broader than long, with a longitudinal mesial depression which narrows apical and is filled in with a clayish vitta; laterally on disc an interrupted line neither reaching apex nor carina, and close to it from middle to basal angle another line, both clayish, a third line lateral, broader, reaching from base to apex, merged together with the second at base, and only imperfectly separated from the clayish area of the prosternum; dorsal carina biconvex, flexed forward at sides in an almost even arch. Elytra similar to those of *ancora*, third interspace finely costate behind along third stripe of punctures; clayish grey area reaching close to apical declivity, deeply sinuate laterally before end, including a brown dot before middle of suture; an apical spot, connected along suture with dorsal area and some long lateral lines clay, no lateral dot. Pygidium clay, with a brown mesial vitta which is divided by a thin grey line; teeth prominent.

Underside clayish grey, sides yellowish clay, this pubescence forming four sharply marked rounded spots on abdomen encircled with brown; a spot on metasternal episternum brown. Legs rufescent brown, tarsi brown-black.

Length, 4½ to 9½ mm.

Hab. Jatahy, Goyaz.

A series.

5. **Gymnognathus blanca** spec. nov.

♂♀. Similar to *ada*, pubescence less clayish and the markings more extended; occiput with two small brown spots; grey vittae of pronotum broader than in *ada*, lateral abbreviated one merged together with the grey ventral area; grey sutural area of elytra extended to lateral margin at shoulder and before middle, and more

or less broadly connected with the apical spot, reducing the brown lateral area to spots of variable size ; pygidium with very thin brown mesial line ; underside almost uniformly creamy white, without isolated lateral spots on abdomen. Inner edge of third line of punctures of elytrum raised posteriorly as in *ada*.

Hab. Rio Pardo, Sao Paulo, December 1898 (Gounelle), *type* : Matu Sinhas, Minas Geraës, March—April 1885 (Gounelle) ; Sierra de Communaty, Pernambuco, January—March 1883 (Gounelle).

A series.

6. **Gymnognathus hilda** spec. nov.

♀. Pygidium bidentate, last abdominal segment rounded. Brownish rufous. Rostrum broader than long, depressed at base, a broad vitta creamy, on head divided into two, which border the eyes. Head with thin mesial carina. Prothorax twice as broad as long, convex : a mesial vitta, narrowing frontad, and an oblique dorso-lateral vitta grey, the grey pubescence of the underside extending upwards above the lateral carina ; this carina horizontal, the angle rounded. Elytra flattened above but not impressed, parallel from base beyond middle, then slightly narrowed, almost truncate at apex ; punctured stripes very fine ; a grey sutural patch from base beyond middle, dilated at base to lateral edge, rounded-sinuate behind base, emarginate behind and slightly also at sides ; a lateral marginal spot before middle and a large triangular apical spot not reaching suture, grey. Pygidium all grey, a little broader at base than long. Underside grey, with small vestigial brown spots. Legs rufous, tarsi blackish.

Length, 4 mm.

Hab. Caraça, Minas Geraës, December 1885 (Gounelle).

1 ♀.

7. **Gymnognathus emma** spec. nov.

♂♀. Pygidium bidentate, last abdominal segment rounded ; head and prothorax rufous red, rostrum, base of pronotum and of elytra and the underside black, or brownish black, elytra rufescent. Rostrum half as long again as broad, little widened at apex, rugate-punctate, a double creamy vitta, contiguous, divided at base into two vittae running across head, bordering the eyes ; frons multicarinate. Prothorax broader than long, finely rugulate transversely all over, convex, transversely depressed in front of carina : apex edged with creamy white, a transverse band in front of carina curving forward laterally, and continued downwards, a short mesial streak on disc, a mesial basal spot and a transverse lateral basal spot of the same colour, basal carina convex laterally, angle 90°, slightly rounded. Scutellum narrowed basad. Elytra with a transverse grey basal spot from suture to shoulder produced backwards at sutural end, followed by an oblique blackish space bordered behind by a grey streak, an elongate spot below shoulder, first stripe of punctures, an oblique narrow apical spot and some traces of lateral median streaks, grey ; the grey sutural line anteriorly joined to an oblique discal line. Pygidium creamy white, with straight rufous brown mesial vitta. A large triangular lateral spot on mesosternum and base of metasternum, and a transverse apical band on metasternum creamy ; a small transverse spot on first abdominal segment, and broad bands on the others white. Legs brown-black, sparsely pubescent grey.

Length, 4½ to 6 mm.
Hab. Jatahy, Goyaz.
A series.

8. **Gymnognathus clara** spec. nov.

♂ ♀. Pygidium and anal sternite rounded, the former with a large mesial coral-red spot. Black-brown. Rostrum dilated at apex, nearly twice as long as broad in middle, rugate-plicate, with thin basal carina which flattens in middle and disappears before reaching apical margin; white. Frons plicate, pubescent coral-red in middle, white at eyes. Antenna black-brown, segments 1 and 2 rufescent, 3 longer than 4, 7 half as long again as 8, this nearly two (♀) or three (♂) times as long as broad. Prothorax densely rugate; a coral-red apical marginal patch behind eye; a mesial vitta, constricted before middle, widened at carina, followed by a basal mesial patch, a short discal line, slightly arched, convex externally, midway between apex and carina, a lateral basal spot extended discad beyond carina, not reaching short discal line, dilated along lateral carina, contiguous with an ill-defined oblique band which extends from red spot downwards to base of prosternum; lateral angle of carina 90°, but rounded off; basal longitudinal carina at a right angle with dorsal carina; lateral carina not reaching middle. Elytra flattened, not impressed, slightly convex at base, lines of punctures very distinct, interspaces 2, 4, 6, 8 and part of 10 white; an oblique band from outer side of shoulder to fourth interspace, a transverse subapical band across both elytra, slightly curved forward at suture, and lateral interspaces brown, excepting ninth, which is cinnamon from middle to declivous apex, like rest of elytra. Pygidium coral-red, rather broadly edged with white. A vitta on prosternum, from coxa obliquely forward, sides of meso-metasternum, except a brown median spot, and four contiguous spots on abdominal segments 2 to 5, creamy-white; rest of underside and legs black, sparsely pubescent white; knees rufescent.

Length, 3 to 4½ mm.
Hab. Jatahy, Goyaz.
A series.

9. **Gymnognathus bella** spec. nov.

♀. Pygidium and anal sternite emarginate-truncate, angles rounded, the former red, with thin grey edges. Rostrum strongly dilated at apex, twice as long as broad in middle, with strong mesial carina, which does not quite reach apical margin, continued to occiput: pubescence reddish, a transverse basal belt grey. Frons multiplicate, coral-red like occiput, eye thinly edged with yellow-buff, a patch behind eye and a streak below yellow-buff. Antenna brown-black, club olivescent, segment 3 little longer than 4, 7 and 8 broader than long, club very broad. Prothorax half as broad again as long, emarginate at apex, black, a dorso-lateral apical patch coral-red, seven grey dorsal vittae, mesial one from apex to carina, followed by a basal patch, first lateral neither reaching apex nor carina, subangulate in middle, second from carina to middle, ending here in a dot, third somewhat irregular, from near carina to red spot, continued along the outer edge of this spot: moreover, a broad lateral vitta divided by the lateral carina; carina concave in middle, flexed forward at side in an even arch: basal longitudinal carina forming an acute angle with dorsal one. Elytra pubescent cinnamon, all the stripes of punctures white, here and there interrupted, alternate interspaces

rather wider, a narrow band of blackish spots from middle of base to basal third of outer margin, another band of three spots parallel with the first beginning at basal fourth of suture, the white lines partly interrupted within the bands, scutellum surrounded by black. Underside and legs black, thinly pubescent white, prosternum laterally more densely white, with oblique fuscous postmedian band; meso-metasternum and abdomen laterally spotted with white, three last spots yellowish.

Length, 8½ mm.

Hab. Jatahy, Goyaz.

1 ♂.

10. **Gymnognathus coronatus** spec. nov.

♂ ♀. Pygidium and anal sternite truncate-rotundate, the former with thin white mesial line. Black, elytra olivaceous cinnamon, occiput and anterior third of pronotum red. Rostrum transversely depressed at base, half as broad again as long, grey in middle and yellowish at sides like frons. Eye subtruncate anteriorly. Frons broad, rugate. Occiput in ♂ with a circular groove of which the edge is raised. Antenna black, rufescent at base, club rufous, segment 3 hardly as long as 2, 6 to 8 short. Prothorax more than half as broad again at carina as long, conical from carina to apex, granulose-rugulose; apical margin bordered with white above, three white basal spots, carina bordered with white at frontal side, this border produced forward in front of basal spots and continued along lateral carina, the mesial projection reaching in between the two halves of a white transverse median band, which is more or less widely interrupted in middle and extends downwards to prosternum; dorsal carina feebly biconvex, forming an acute angle with basal longitudinal carina, flexed forward at sides in an even arch, not reaching middle. Scutellum white. Elytra very slightly flattened, slightly impressed behind at suture, a shadowy brown transverse band behind base extending from near suture to near lateral margin, flexed forward at side, including shoulder-angle, this inconspicuous band slightly bordered with white in front and behind; base somewhat yellowish. Pygidium shaded with grey, half as long again as basal broad, white mesial line narrow. Underside not very densely pubescent white, sides of metasternum more densely pubescent, yellowish, an oblique transverse band on pro-, another on meso-metasternum brown. Legs black or brown, rufescent at knees.

Length, 3½ to 4 mm.

Hab. Jatahy, Goyaz.

A series.

The round groove on the head of the ♂ is a very striking character peculiar to this species.

11. **Gymnognathus nubilus** spec. nov.

♀. Pygidium and anal sternite rounded. Rufescent, tarsi black; pygidium and underside densely pubescent white; upperside shaded all over with white, this pubescence condensed at the sides of the pronotum and in middle before base, on elytra in basal depression, along suture from scutellum to near middle, this vitta curving laterad behind, at apex and in middle of lateral margin; all these markings ill-defined.

Rostrum broad, about one-third longer than broad, mesially depressed at base,

with mesial carina, which nearly reaches apex and extends backwards over the frons. The latter two-thirds the width of the rostrum, multicarinate. Prothorax one-third broader than long, finely rugulose, convex, not longitudinally depressed in middle; carina biconvex above, curved forward at sides in an even arch, without indication of an angle, not reaching middle of side. Elytra convex, less depressed at suture, and shorter, than in *ancora*. Pygidium longer than broad.

Length, 7½ mm.

Hab. Caraça, Minas Geraës, December 1885 (Gounelle).

1 ♂.

12. **Gymnognathus alma** spec. nov.

♀. Pygidium rounded, with very thin brown mesial line, which widens apically; anal sternite slightly emarginate. Rufescent; club of antenna and tarsi brown-black. Rostrum nearly half as long again as broad, deeply and broadly impressed mesially from apex to base, with a mesial carina which does not reach apex but extends backwards, being highest anteriorly on frons; a broad creamy mesial vitta, dividing into three lines on occiput, the mesial line being the broadest. Antennal segments 7 and 8 broader than long. Prothorax half as broad again as long, smooth, longitudinally depressed in middle, the slight depression filled in by a broad creamy vitta which tapers anteriorly; two lateral spots on disc, one apical, elongate, oblique, the other before carina, rounded, a little more dorsal, connected with a basal lateral spot; grey pubescence of underside extended upwards over lateral carina, sending out a spur towards the apical dorsal streak; dorsal carina interrupted in middle and rather deeply concave, flexed forward at sides in a very obtuse, rounded angle. Elytra nearly as in *ancora*: stripes very fine: grey area extended basally to lateral margin, including brown shoulder spot, expanded between suture and stripe 5 and reaching close to apical declivity, rectangularly excised in middle of elytrum, posteriorly sinuate at suture, including a brown dot situated at basal third of suture. Underside creamy white, except a dot on metasternal episternum and sides of last two abdominal segments. Legs rufous, tarsi brown-black.

Length, 8½ mm.

Hab. Brazil.

1 ♀.

13. **Gymnognathus irma** spec. nov.

♂ ♀. Pygidium and last ventral segment rotundate-truncate. Similar in colour to *ancora*. Occiput with brown triangular mesial patch divided by a thin grey mesial line; mesial vitta of pronotum broad, occupying nearly half the base; sides of pronotum clayish grey, with two brown spots incompletely separating an oblique vitta from the lateral area; dorsal area of elytra as in *ancora*, apical spot luniform, curving forward near suture; pygidium grey, narrowly bordered with brown at sides, the brown border slightly widened near base. Head and pronotum rugulose, plicate, as in *affinis*, angle of prothoracic carina as in *affinis*: lateral carina both in *irma* and *affinis* shorter than in *ancora*.

Hab. Jatahy, Goyaz.

A series.

14. **Gymnognathus clelia** spec. nov.

♀. Pygidium and anal ventral segment rounded at apex. Rostrum and head with broad reddish mesial vitta, including a large brown mesial spot on occiput; mesial carina feebly elevate, but visible from apex of rostrum to prothorax. Rostrum shorter than in *ancora*. Frons more than half the width of the rostrum. Prothorax transversely rugulose, with three vittae, which are reddish in front; one in middle, extending from base to middle of disc or continued as a thin red line to apex, and one on each side, broad, merged together at hinder angle of prothorax with the grey ventral area, extending obliquely to apex, being continuous with the lateral vitta of the head; carina somewhat shorter than in *ancora* at the sides, angle a little more obtuse. Elytra shorter and more depressed than in *ancora*, more strongly declivous behind, reddish grey area similar, broader, extended proximally to lateral margin, enclosing brown shoulder-angle, posteriorly dilated to seventh stripe, here nearly touching a rather large marginal median spot, deeply sinuate behind on suture; apical spot large, reddish, rounded on discal side, the two spots forming a transverse band, including between themselves a brown elliptical sutural spot. Pygidium reddish, with extremely thin brown border. Underside, except anal segment, densely grey. Femora and tarsi brunnescent, tibiae rufous.

Hab. Rio Pardo, San Paulo, December 1898 (Gounelle), *type*; Tijuca, Rio de Janeiro, December 1884 (Gounelle).

2 ♀♀.

15. **Gymnognathus erna** spec. nov.

♀. Allied to *irma*. Rostrum somewhat shorter: triangular brown mesial patch of occiput continued across pronotum, gradually and regularly widening posticad, with straight oblique sides; mesial vitta of pronotum narrower at base than in *irma*, the brown stripe very slightly narrowing frontad, about as broad at carina as mesial vitta; upper border of grey sides of pronotum slightly yellowish, indistinctly separated from the ventral area by a slightly thinner pubescent vitta, this yellowish border corresponding to the lateral occipital vitta. Elytra shorter than in *irma*, the dorsal patch practically the same, being more evenly sinuate laterally, apical spot larger, being rounded on discal side, not emarginate. Pygidium much longer, twice as long as broad, white, rounded at apex. Underside white. Legs rufescent, tarsi and apex of tibiae black.

Length, 4 mm.

Hab. Caraca, Minas Geraës, December 1885 (Gounelle), *type*; Matu Sinhos, Minas Geraës, March—April 1885 (Gounelle).

2 ♀♀.

This species agrees in the length of the pygidium with the next one.

16. **Gymnognathus nanus** spec. nov.

♂ ♀. Pygidium and anal sternite rounded, the former subtruncate in ♀, creamy white, long, with a small brown lateral spot. Black-brown. Rostrum yellowish cream all over, not brown at sides, a little longer than broad, with thin mesial carina at base. Frons two-thirds the width of the rostrum, yellowish cream-colour, plicate; occiput with large brown mesial patch, divided by a more or less distinct yellowish mesial line. Antennal segment 3 a little shorter than 2 in

both sexes. Prothorax convex, not quite twice as broad at carina as long, plicate, sides pubescent creamy as far discad as upper edge of eye, this lateral area, which is continuous with the grey-white under surface, sinuate in middle and including two brown spots, the spots being often joined to the brown discal area: a large basal mesial spot grey, continued across the carina, being of the same width about in front of and behind the carina, generally connected by a thin line with a mesial antemedian elliptical spot, which itself is connected by a thin line with apical margin; dorsal carina feebly convex laterally, forming an acute angle with basal longitudinal carina; flexed forward in an obtuse and strongly rounded angle, not reaching middle of side. Scutellum white. Elytra short, slightly flattened above, feebly impressed behind at suture, with rather coarse stripes of punctures; a grey area from base beyond middle, basally extending to lateral margin, but interrupted at shoulders, expanding between the fourth interspace from basal fourth of elytra backwards, narrowed at end, which is rotundate-truncate; patch either produced laterad just before end, or there is a separate discal spot near end of patch; an obliquely ovate brown subbasal spot within grey area, often continuous with brown area; declivous apex entirely grey, this area anteriorly bisinuate on each elytrum, often produced forward at suture to meet the anterior grey area, and not rarely including a brown spot on each elytrum; a transverse antemedian lateral spot grey. Pygidium twice as long as broad, somewhat curved upwards at end in ♂: brown lateral spot elongate, small, sometimes vestigial. Underside white. Apex of femora and basal three-fourths of tibiae rufous.

Length, 3½ to 4½ mm.

Hab. Jatahy, Goyaz.

A series.

17. **Gymnognathus soror** spec. nov.

♀. Pygidium and anal sternite rounded-truncate, the former with brown mesial vitta. Similar to *G. brevirostris* (1895) Jord. Rostrum somewhat longer, angle of prothoracic carina a little less than 90°, not rounded; greyish clay area of elytra longer, extending behind from suture to fifth row of punctures, very shallowly emarginate laterally before apex, not deeply sinuate, apical spot larger; femora and tibiae rufescent, essentially the same colour, the femora not being obviously paler than the tibiae.

Hab. Caraça, Minas Geraës, December 1885 (Gounelle).

1 ♀.

18. **Gymnognathus helena** spec. nov.

♀. Pygidium truncate, angles rounded, a brown mesial vitta; anal sternite emarginate. Rufescent. Rostrum transversely depressed at base, with a feeble mesial carina; a yellowish clay mesial vitta, divided on head into two lines bordering the eyes. Prothorax nearly twice as broad as long, plicate, with three yellowish clay vittae, narrowing apicad, lateral ones oblique; dorsal carina rather obviously curved backwards laterally, lateral angle 90°, somewhat rounded, lateral carina extending to middle. Elytra rather short, strongly depressed at suture from basal third backwards; a transverse basal patch between scutellum and shoulder, reappearing beneath shoulder-angle, imperfectly connected near suture with a sutural area which extends beyond middle; this area is cross-shaped, including a large sutural antemedian brown spot, side-arm of cross anteriorly bisinuate, oblique,

not quite reaching a lateral marginal antemedian spot, behind the lateral arm the cross is roundedly sinuate, the sinus extending to second stripe, apex of cross emarginate at suture, the angles produced laterad into a narrow undulating band, which reaches lateral margin : a large apical spot in sutural angle, subtruncate on discal side. Mesosternal epimerum and a lateral apical spot on metasternum creamy. Legs black, femora and base of tibiae rufous.

Length, 6 mm.

Hab. Cali, Colombia, November—December 1894 (W. Rosenberg).

1 ♀.

19. **Gymnognathus editha** spec. nov.

♀. Similar to *dorsonotatus* (1839), Fahrs. Rostrum shorter and broad, less narrowed basad ; mesial carina short, abbreviated in middle of rostrum, produced backwards, disappearing between eyes. Prothorax much shorter than in *dorsonotatus*, half as broad again as long, longitudinally plicate on disc, with three clayish vittae, mesial one narrowing frontad, lateral one extending from basal angle obliquely forward, being continuous with the lateral dorsal vitta of the head and rostrum ; lateral carina short, angle obtuse, but not rounded. Elytra shorter than in *dorsonotatus*, clayish grey area similar, but not widened out behind, being expanded between first and fourth stripe and posteriorly rounded on each elytrum, a straight brown line on suture from basal third of elytra, behind the clayish grey area a triangular sutural spot of the same colour, contiguous with the area or separate, its hinder angles produced laterad ; a thin oblique antemedian lateral streak ; apical spot small or absent. Pygidium and anal ventral segment truncate, angles slightly dentiform, the former with a narrow clayish grey mesial vitta. Underside pubescent grey, yellowish clay at sides. Antenna of ♂ rufous beneath, prolonged, reaching at least basal third of elytra.

Length, 5 to 7 mm.

Hab. Jatahy, Goyaz.

A series.

The prothorax of this species is similar to that of *vitticollis* (1896) Jord., but in that species the bidentate pygidium is clayish, with a brown mesial vitta, and the last abdominal segment is rounded.

20. **Gymnognathus martha** spec. nov.

♀. Pygidium and anal sternite rounded, the former white with a small black lateral spot. Black, densely pubescent white ; legs rufous, tarsi and tip of tibiae black. Rostrum a little longer than broad, slightly widening apicad, black-brown at sides ; mesial carina distinct at base, not reaching beyond middle, and not extending to occiput. The latter with small black-brown mesial spot. Prothorax as long as broad, convex, plicate, disc black-brown in anterior half, this colour occupying one-third of apical margin, the area widening behind, gradually more shaded with white, on the posterior half of the disc the black colour shining through the white pubescence ; a mesial basal patch and a smaller lateral one more densely pubescent white, continued beyond carina ; dorsal carina convex at sides ; lateral angle 90°, but tip rounded off ; lateral carina not extending to middle. Elytra with a broad brown-black anteapical transverse band, reaching from side to side, sinuous in front, deeply bisinuate behind on each elytrum ; a subbasal discal round spot fuscous, the brown-black colour shining through the

white pubescence, the two spots connected with one another by a vestigial fuscous band ; each spot continuous with the likewise slightly fuscous side of the elytrum, which is denser pubescent white at shoulder and at black band ; sutural region somewhat flattened, but not impressed.

Length, $4\frac{2}{3}$ mm.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

1 ♀.

21. **Gymnognathus hamatus** spec. nov.

♂. Pygidium and anal sternite rounded ; the former entirely white. Rufescent, olivaceous, dark pubescent parts cinnamon, less bright than usually. Rostrum a little broader than long, with feebly elevate mesial carina. Frons more than half the width of the rostrum. Antenna rufous, prolonged, reaching base of elytrum, thin, club brown. Prothorax half as broad again as long, plicate, convex ; a white mesial vitta thin from apex to middle, then suddenly broader ; an oblique lateral vitta almost completely merged together with the white prosternal area which extends upwards, a short oblique dorso-lateral vitta from base across carina, not reaching middle ; carina interrupted and convex in middle, convex again dorso-laterally, lateral angle 90°, but strongly rounded off ; lateral carina not quite reaching middle. Elytra depressed at suture ; stripes of punctures hardly visible ; a large white area extending at base to lateral margin, including a brown spot on shoulder, a round one on subbasal callosity, and a small one in middle of suture ; the patch reaching posteriorly to near declivous apex, expanding between the fifth stripes, being deeply sinuate laterally before end, and triangularly emarginate at suture ; an antemedian and a postmedian lateral spot and a large apical one also white. Underside white, with small brown lateral spots on abdomen, last segment with larger spot. Legs rufescent, pubescent white, tarsi nigrescent ; hindtibia with small sharp hook at apex (♂).

Length, $6\frac{1}{2}$ to $7\frac{1}{2}$ mm.

Hab. Serra de Communaty, Pernambuco, January to March 1893 (Gounelle).

2 ♂♂.

22. **Gymnognathus leucomelas** spec. nov.

♀. Allied to *fahraei*. Upperside densely pubescent creamy white ; a postmedian band on elytra extending from lateral margin obliquely backwards to fourth stripe of punctures black, sending forward towards suture a thin branch, and being continuous with a black anteapical transverse spot which touches suture. Underside glossy black, side of metasternum creamy white, this area extended as a narrow band anteriorly across the sternum ; a vitta of three lateral spots on abdominal segments 3 to 5, apex of femora and proximal two-thirds of tibiae also white.

In shape similar to *fahraei* ; antennae longer, segment 3 twice the length of 2, and 7 twice the length of 8 ; carina of prothorax more deeply concave in middle ; elytra deeper depressed at suture, with the fourth interspace subcostate ; underside practically impunctate, the punctures being very sparse ; mesosternal process convex, mesial metasternal process strongly convex.

Hab. Caraca, Minas Geraës, December 1885 (Gounelle), *type* ; Espirito Santo.

2 ♀♀.

23. **Gymnognathus comptus** spec. nov.

Close to *G. clathratus* (1894) Jord. The two vittae of head and rostrum separate : red space of head not so sharply limited, plicate ; basal angle of prothorax more projecting laterad, dorsal carina nearly straight in middle, pattern of pronotum different ; a small transverse apical spot connected with large transverse basal spot by a thin mesial vitta which widens a little behind middle, at each side of this vitta at carina a strongly arched spot which does not reach middle ; this spot connected by an oblique stripe with a transverse subapical band, which extends upwards from prosternum ; a line following the lateral bent of the carina; a lateral basal spot continuous with the mesial spot ; red area more extended than in *clathratus*, reaching beyond middle. Elytra black-brown, alternate interspaces striped with yellowish grey in basal half, these stripes gradually disappearing, partly interrupted. Pygidium brown-black, with very thin grey lines. Underside sparsely grey ; prosternum covered with a dense yellowish pubescence like the spots of pronotum, two brown transverse lines, one mesial, the other subbasal ; a yellowish lateral vitta on meso-metasternum, interrupted in middle. Legs black.

Length, 4½ mm.

Hab. Rio Pardo, Sao Paulo, December 1898 (Gounelle).

One specimen.

24. **Gymnognathus scolytinus** spec. nov.

♀. Pygidium and anal sternite bidentate, the former with thin white mesial vitta. Head rufous, upperside of rostrum and frons brown : rostrum half as broad again as long, very thinly pubescent grey like frons, dilated above antennal cavity, with broad mesial carina, which does not reach apex. Frons more than half the width of the rostrum, densely plicate ; occiput smooth. Antenna brown, short, club rufous. Prothorax short, nearly twice as broad at base as long, brown, apical margin rufous, edged with white above, a spot before scutellum, preceded in front of carina by a tripartite one, of which the mesial point is prolonged, an angle-shaped dorso-lateral line before carina, accompanied laterally by a similar, thinner, but longer angle-shaped (sometimes interrupted) line, which is concave laterally, while the first is open discally, a line above lateral carina, and a transverse one at side, all white ; dorsal carina rather close to base, concave in middle, slightly convex laterally, lateral angle sharp, a little less than 90°, lateral carina extending beyond middle, straight, basal angle of prothorax acute, basal longitudinal carina forming an obtuse angle with the dorsal carina. Scutellum white. Elytra flattened dorsally, but not at all impressed, slightly convex basally, evenly rounded-declivous behind, rows of punctures distinct, pubescence very fine ; a large semicircular basal sutural patch expanded between the fourth stripes and a humeral spot blackish, posterior half and the whole sutural area also blackish, but covered with a cinnamon-olive pubescence concealing the black colour, antemedian dorsal and lateral area rufous ; no white markings. Pygidium brown-black, white mesial line narrow. Underside brown-black, finely pubescent grey, two lateral spots on metasternum, and three less distinct ones on abdomen (segments 2 to 4) white. Legs rufescent brown, apex of femora rufous, tarsi blackish.

Length, 4½ mm.

Hab. Callanga, Peru.

3 ♀♀.

Domoptolis gen. nov.

♂♀. Close to *Gymnognathus*. Rostrum beneath without mesial carina. Eyes of ♂ enlarged, subapproximate. Antebasal carina of prothorax interrupted in middle. Shoulder transversely plicate. Pygidium long, rounded at apex.

Type: *Gymnognathus menetriesi* (1844) Boh.

Strabops gen. nov.

♂. Close to *Gymnognathus*. Rostrum short. False mentum much broader than long, separated from gula by a transverse groove connecting the buccal fissures, no mesial carina. Club of antenna long and broad. Eyes enlarged, separated by a very narrow interspace frontally, emarginate above, the upper part of the head therefore rounded laterally, longer than broad, horizontal, the rostrum being nearly vertical. Lateral carina of pronotum straight, long, reaching to apical third. Pygidium very little narrowed apicad, truncate, twice as long as broad. Legs slender; foretibia with prominent obtuse apical tooth; midtarsus much longer than hindtarsus.

Type: *S. insignis* spec. nov.

25. **Strabops insignis** spec. nov.

♂. Rufescent brown. Rostrum and cheek pubescent white, the former as long as broad, with vestigial mesial carina, and with a lateral longitudinal sulcus just above antennal cavity. Eye edged with white, widest behind, twice as broad as occiput, and as long as the rostrum is at side. Antenna black, segment 1 rufonsy-grey, 3 a little longer than 2 and than 4, as long as 5+6, 7 and 8 very short, 8 broader than long, 9 half as long again as apically broad, not much narrowed towards base, 10 transverse, 11 a little longer than 10, rotundate. Prothorax not constricted behind carina, slightly narrowing from angle of dorsal carina to apex of lateral carina, then more strongly narrowing, densely rugose, as long as broad, convex, not impressed; carina strongly concave in middle, parallel to basal edge of elytra, angle a little over 90°, very slightly rounded; a widely interrupted mesial vitta, an indistinct, straight, oblique, dorso-lateral vitta, and sides clayish-grey. Scutellum clayish-grey. Elytra subcylindrical, slightly and gradually narrowed from base to apex, not depressed above, sutural interspace a little impressed, rather coarsely striate-punctate; a sutural vitta from base to near middle broadly connected at basal margin with a shorter basal median vitta, an oblique curved streak behind middle from stripe 7 to 2, an elongate-triangular apical spot separate from suture, a minute lateral spot below shoulder and another in middle, white; base of suture and basal half of sides somewhat blackish underneath the pubescence. Pygidium truncate, slightly emarginate, white, with a straight black mesial vitta. Underside grey, sides of meso-metasternum and abdomen denser pubescent, clayish. First midtarsal segment three-fourths the length of the tibia, nearly twice the length of the first hindtarsal segment. Apical tooth-like lobe of foretibia spinose at edge.

Length, $4\frac{1}{3}$ mm.

Hab. Upper Amazons.

1 ♂.

Orthotropis gen. nov.

♀. Similar to *Tropideres*, but more nearly related with *Gymnognathus*. Eye round, dorso-lateral. Frons more than half the width of the rostrum, this flat, widest at apex, here as broad as it is long, truncate. False mentum without distinct mesial carina, lobes rounded. Second segment of maxillary palpus very short. Mandible with basal ventral groove. Antenna short, club not so compact as in *Tropideres albirostris*, segment 3=4, a little shorter than 2, 8 as long as broad, 9 triangular, a little longer than broad, 10 transverse, 11 rounded, a little longer than 9. Prothorax truncate at base, slightly produced forward above, being dorsally longer than laterally, strongly rounded at basal angles, convex; dorsal carina at basal third, straight or faintly angulate in middle, not flexed forward at sides; basal longitudinal carina vestigial, forming a very acute angle with dorsal carina, being directed downwards; subbasal transverse carina absent. Scutellum transverse. Elytra broader than prothorax, oblong, truncate at base, flattened at suture. Pygidium broader than long, evenly rounded. Tarsus about as long as tibia.

Type: *O. quadrata* spec. nov.

26. **Orthotropis quadrata** spec. nov.

♀. Black-brown. Rostrum pitchy, coarsely punctate-rugate, with broad yellowish white mesial vitta, which extends backwards, occupying the whole frons and dividing on occiput. Prothorax one-third broader than long, a broad mesial vitta, attenuating at apex, a narrow oblique lateral apical streak, followed before carina by a dot (which is sometimes absent) and behind carina by a spot, yellowish white. Scutellum twice as broad as long, obtusely triangular, white or yellowish like markings of elytra. Elytra depressed at suture, impressed in middle of basal margin, third interspace somewhat elevate, subbasal and humeral callosities convex; seriately punctate; a large cross-shaped area from base to middle yellowish white, first expanded between stripes 2 (scutellar stripe of punctures not counted), then between stripes 6, and finally between stripes 3, the three portions about equal in length; a large apical area the same colour, in front sinuate on suture and more deeply on disc; a transverse postmedian sublimbal spot also yellowish white. Pygidium pubescent like apex of elytra, without brown spots. Underside grey; a large lateral spot on metasternum and a series of lateral dots on abdomen brown; sides of sterna punctured. Legs black, excepting basal four-fifths of tibiae, which are red.

Length, 3½ to 5 mm.

Hab. Caraça, Minas Geraës, December 1885 (Gounelle), *type*: Rio de Janeiro; Lages.

5 ♀♀.

The American *Anthribidae* allied to the Old World genera *Nessiara*, *Straboscopus*, *Hylopemon* and *Apatenia* differ from the Old World species in the apical marginal strip of the metasternum in front of the coxa not meeting the corresponding piece of the other side, the apical mesial sinus penetrating to the sternal plate of the metasternum in the New World species, while it does not extend so far in the Old World species. This group of oblique-eyed Anthribids appears to be very numerously represented in America, where true *Acorynus*, *Litocerus* and *Tropideres* do not occur.

Monocloeus gen. nov.

Rostrum truncate, vertical, flat, without carina. Antennal cavity sharply limited behind, its upper edge not continued backwards to eye. Eye oblique, elliptical, very prominent. Prothorax without basal longitudinal carina, or this carina vestigial; antebasal carina not at all or very feebly curved forward laterally; subbasal carina vestigial at the side or altogether absent.

Type: *M. elaphrinus* spec. nov.

27. **Monocloeus elaphrinus** spec. nov.

♂. Black, antennæ and legs rufous, basal half of femora brown. Rostrum, head, prothorax (above and below), scutellum, some spots on meso-metasternum and abdomen, and a thin median ring, each on femora and tibiæ white; two basal spots on pronotum black; occiput, elytra and rest of underside olive-brown, shaded here and there with grey.

Rostrum half as long again as broad, straight at the sides, somewhat dilated above the antennal cavities, transversely raised between these dilatations. Frons between eyes half the width of the rostrum. Eye minutely incised beneath. Antennal segment 2 elongate, pear-shaped, 3 half as long again as 4, 3 to 8 gradually decreasing in length, 8 little longer than broad, club loose, 9 nearly twice as long as broad, truncate, 10 as long as broad, heart-shaped, 11 longer than 9 and somewhat broader, ovate. Prothorax with the carina situated before basal third, gradually narrowed from carina to apex and to base, disc somewhat depressed transversely, apex convex; carina interrupted mesially and laterally, convex in middle, irregularly and rather slightly biconcave laterally, not produced forward at side of thorax; white pubescence less dense in some places on disc. Elytra oblong, widest before apical declivity, with large punctures situated in depressions, not distinctly striate, except at the sides, strongly depressed at the base, impressed between the somewhat elevate humeral angle and the subbasal callosity; the latter high, subdivided by the impressed third line of punctures; a tubercle in centre of disc before middle, a minute one behind it in third interspace and another more lateral in middle; a high postmedian tubercle from first to fourth rows of punctures, followed by another which is nearly as high; laterally of these two there are four more, of which the posterior one alone is prominent: suture tesselated with black behind. Pygidium rounded, somewhat longer than broad.

Length, 6½ mm.

Hab. Ribeirao Pires, Sao Paulo, November 1893 (Gounelle).

1 ♂.

28. **Monocloeus spiniger** spec. nov.

♂. Similar to *elaphrinus*, rostrum white, with black mesial dot at base, longitudinally depressed, a little broader than long, angulate above the antennal groove. Prothorax shorter than in *elaphrinus*, carina nearer the middle, space between the two black basal spots grey, a black apical half-ring, convex anteriorly, interrupted in middle, followed laterally by a black spot, area limited by these spots and carina ochraceous, centrally shaded with grey. Scutellum greyish white. Apical third of suture and the side and apex of the elytrum dotted with black, the sutural dots more or less confluent; subbasal tubercle high, divided, a smaller

one between stripes 1 and 4 in middle, accompanied laterally by a white dash, two small ones before middle between stripes 4 and 7, a very prominent one before apex, acute, conical; stripes of punctures impressed, alternate interspaces slightly more grey; a thin white line from second dorsal tubercle to third one.

Length, 5½ mm.

Hab. Sao Paulo.

1 ♂.

29. **Monocloeus annulipes** spec. nov.

♂ ♀. Black-brown. Rostrum one-third broader than long, angulate above antennal cavities, somewhat narrowed behind them, flat, somewhat uneven; white or clayish grey like frons and cheek, with brown anguliform basal mark. Frons about one-third the width of rostrum, somewhat narrower in ♂ than in ♀. Occiput brown, mottled with grey and ochraceous. Antenna short, dark rufous, segment 2 incrassate, longer than 3 = 4, club nearly as long as 4 to 8 together, 9 one-third longer than broad, 10 transverse, broader than long, 11 longer and broader than 9. Prothorax with the carina at basal third, longer than broad, slightly uneven, olivaceous clay, a small apical marginal mesial spot, accompanied at each side by an oblique spot and a central dot black, sides blackish, this area bordered below by grey pubescence; a thin transverse spot at each side of central dot and a short mesial basal line grey: two small black basal spots; carina almost straight, feebly concave in middle. Scutellum grey. Elytra not much longer than broad, punctate-striate, brown, mottled with grey, sutural interspace tesselated with grey and black, some black dots also in interspaces 3, 5, 7 and 9, humeral interspace subelevate; subbasal tubercle and another in third interspace compressed, clothed with tawny hairs on top, in interspace 5 a small tubercle before middle and a somewhat larger one before apex; shoulder ochraceous tawny above, somewhat elevate. A lateral spot on meso-metasternum and abbreviated lateral bands on abdomen white. Legs rufous, annulated with grey; greater proportion of femora, a postmedian ring on tibiae and apex of first tarsal segment brown. Pygidium rotundate-truncate, with a white angle-shaped raised mark at base.

Length, 4 mm.

Hab. Jatahy, Goyaz, December 1897 to January 1898.

A series.

30. **Monocloeus basalis** spec. nov.

♀. Rostrum longer than broad, gradually dilated from base to apex, angulate above antennal cavities, white like cheek, with a brown double dot at base in middle, eye very prominent, minutely incised. Frons transversely elevate between anterior parts of eyes. Antenna dark rufous, proportion of segments practically the same as in *annulipes*, segment 3 being a little longer than in that species. Prothorax black at sides, pale ochraceous above from apex to base, this area including at each side a black oblique apical streak corresponding to a longer black oblique basal spot, a white lateral median dot, a thin white mesial line and a black central heart-shaped spot; disc slightly depressed transversely before middle; carina practically straight. Scutellum transverse, pentagonal. Elytra very pale ochraceous, dotted with black from basal third to near apex, this area extending laterally to near shoulder, interspaces 1, 3, 5, 7 and 9 grey and black, the others less spotted with black, basal third unicolorous, excepting three brown

marginal dots, a dot on shoulder and a line in front of subbasal tubercle; this tubercle high, compressed, a similar one in third interspace in middle, with a black spot on top, no other tubercles, but interspace 7 costate before apex, the costa rather abruptly terminating, and 9 subcostate. Pygidium truncate, with the angles rounded, pale ochraceous, shaded with grey. Underside sparsely pubescent white, sides more densely pubescent, within this white vitta some black dots. Legs very pale ochraceous; basal half of femora (hinderside only of anterior femora), a subapical spot or ring, apical half of tibiae and a subbasal spot, and tarsi, except base of first and second segments, brown.

Length, 5 mm.

Hab. Ega, Amazons.

1 ♀.

31. **Monocloeus rhombifer** spec. nov.

♂. In colour resembling *M. basalis*, but very different in structure. Rostrum white like cheek, twice as broad as long, angulate in middle above antennal cavities, narrowed from this angle to apex, subsinuate in middle of apical margin, transversely subcarinate above on each side in middle. Frons white, about one-fourth the width of the rostrum. Occiput concave anteriorly. Eye large, not so prominent as in *basalis*, feebly emarginate below. Antenna rufous brown, reaching base of prothorax, segments 1 and 2 and apex of 3 to 8 rufous, 3 = 4 a little longer than 2, 8 about three times as long as broad, 9 one-third longer than broad, 10 also triangular, a little shorter than 9, 11 ovate, broad and somewhat longer than 9. Prothorax in shape similar to that of *basalis*, transversely depressed before middle, clothed with a pale ochraceous pubescence; a band from middle of apical margin obliquely to carina, composed of confluent spots, an elongate basal spot on each side of greyish mesial spot extending from basal edge obliquely across carina to before-mentioned band, which it does not quite reach, a small mesial spot behind middle and some rather indistinct or tiny spots at the sides, black; carina feebly convex in middle and again laterally. Elytra black, slightly shaded with grey, from basal margin to hinder side of subbasal tubercle ochraceous, this area including some black dots, one of which is situated on the tubercle, shoulder rufous brown, third interspace with black tubercle in middle, fifth with a very small black tubercle before and another in middle, both median ones followed by a white or buffish spot, seventh and ninth interspaces faintly dotted with black, no other tubercles, the elytra being evenly convex from median tubercles to apex, underside grey. Anterior and median legs rufous, two spots on femora and a very large spot on tibia brown; hindleg brown, rufous at the joints, similarly pubescent grey as fore- and midlegs; midtibia with an obtuse projection at apex.

Length, 5 mm.

Hab. Upper Amazons.

1 ♂.

32. **Monocloeus or** spec nov.

♂ ♀. Similar to *M. rhombifer*, but smaller. Eyes farther apart, antenna shorter, segments 10 and 11 much narrower near base, the club therefore more loose, twice as long as broad in ♂. Pronotum less depressed before middle, carina straight, black oblique band extending from middle of apical margin

backwards, occupying the greater part of the side, black basal spots straight, not oblique, not prolonged beyond the carina, the latter not convex in middle, being practically straight. Ochraceous basal area of elytra narrower than in *rhombifer*, not including the black subbasal tubercle, mesial tubercle smaller, stripes less impressed. Legs brown, rufescent at the joints, pubescent grey, upperside of tibiae and tarsi and two spots on hindfemur pubescent brown; midtibia not subhamate.

Hab. Marco da Legua, Para, March 1895 (Gounelle), *type*; Para; Upper Amazons.

2 ♂♂, 1 ♀.

33. **Monocloeus sordidus** spec. nov.

♀. Black. Rostrum clothed with a clayish pubescence, longer than broad, widest at apex, which is truncate, rounded-angulate laterally at apical third, flat, mesially feebly impressed. Frons less than half, but more than one-third, the width of the rostrum. Eye prominent, very minutely incised below. Antenna short, brown, proximal and distal segments (or only the latter) rufous, segment 3 a little shorter than 2 and a little longer than 4, 6 to 8 very short, 8 as long as broad, 9 triangular, one-fourth longer than broad, 10 transverse, much broader than long, 11 truncate at base, ovate, about as long as broad. Prothorax evenly convex on disc, rather indistinctly marked with olivaceous clay, a large trapeziform mesial patch before base greyish, narrower at the carina, divided by a grey mesial line which extends beyond the carina and reappears as a clayish line at apex; black basal spots elongate, small; carina at basal third, very feebly concave in middle. Scutellum grey, slightly transverse, pointed in middle. Elytra tuberculate, regularly punctate-striate, suture rather densely dotted with black and grey in apical two-thirds, interspaces 3, 5, 7 and 9 also more or less tesselated, base clayish; subbasal tubercle high, middle compressed, followed in middle by another which is of the same height but is longer, fifth interspace with an elongate tubercle before middle, seventh costate, especially before apex. Pygidium truncate-rotundate, with two grey spots at base. Underside sparsely pubescent grey; a grey vitta on prosternum, prolonged over cheek; some grey lateral dots on abdomen and meso-metasternum. Knee and tarsal segments 3 and 4 rufous; a broad antemedian ring on tibiae clay; first tarsal segment grey.

Length, 4 mm.

Hab. Rio Pardo, Sao Paulo, December 1898 (Gounelle), *type*: Caraça, Minas Geraës, December 1885 (Gounelle).

2 ♀♀.

34. **Monocloeus idaeus** spec. nov.

♂. Rufous, tarsi and antennal segments 10 and 11 paler; thinly irrorated with clayish grey; scutellum, a mesial vitta and a lateral dorsal dot on pronotum, and metasternal epimerum more densely pubescent. Rostrum vertical, flat, widest at apex, twice as long as broad, densely rugate-punctate like head. Frons half the width of rostrum. Eye little projecting, rather short. Antenna short, segment 3=4, 8 little longer than broad, club compact, 9 triangular, not longer than broad, 10 twice as broad as long, 11 truncate at base. Prothorax twice as broad as long, as broad as the elytra, very strongly narrowed from carina to apex and base. Scutellum rounded-triangular. Elytra strongly convex, not

depressed at suture, regularly punctate-striate ; third interspace with a subbasal and an antemedian tubercle, both rather prominent, brown, second the larger ; alternate interspace slightly costate, base depressed, apex gradually rounded-declivous. First segment twice the length of second.

Length, 3½ mm.

Hab. Sierra de Durango, Mexico.

1 ♂.

35. **Monocloeus costatus** spec. nov.

♂ ♀. Black-brown, dotted all over with a luteous grey pubescence ; dots small on pronotum. Eye not very prominent, nearly half as long again as broad, entire, not emarginate or incised below. Rostrum flat, truncate, widest at apex, slightly angulate above antennal cavity, as long as broad. Antenna brown, end-segment luteous, 3 not quite twice the length of 2 and of 4, 7 twice as long as broad, 8 dilated, 9 a little longer than broad, rather broader at the base than in the previous species, 10 one-fourth broader than long, nearly rectangular, 11 ovate, acuminate at apex, obtuse at base. Prothorax much longer than broad, evenly convex, carina at basal fourth, evenly concave, becoming straight only at the sides, subbasal carina distinct. Scutellum clay, transverse. Elytra convex, alternate interspaces costate, third highest behind base and in middle, the costae brown, this colour interrupted by sharply defined luteous dots ; an ill-defined lateral antemedian space without dots. Femora and tibiae densely dotted with luteous grey, apical half of tibiae and tarsal segments 2 to 4 brown, segment 1 grey.

Length, 4½ to 5 mm.

Hab. Cochabamba, Bolivia (Germain).

One pair.

36. **Monocloeus centralis** spec. nov.

♂. Brown-black, irrorated with an olivaceous clay pubescence. Rostrum grey like cheek, as long as broad, somewhat dilated above antennal cavity, slightly narrowed apically, shallowly sinuate in middle of apical margin, flat above, with a small central groove and on each side in middle a transverse carina. Frons very narrow, hardly one-sixth the width of the rostrum. Eye large, very faintly emarginate below. Antenna reaching base of elytrum, segments 1, 2, 7, 8, apical half of 11 and tips of 3 to 6 rufous, 3=4 twice the length of 2, 8 not thicker than 7 and only half its length, 9 elongate-triangular, more than twice as long as broad, 10 half as long again as broad, rounded at base, 11 elongate-elliptical, very obtuse, longer than 9 and a little broader. Prothorax a little broader than long, evenly convex, with two large black patches at base, a transverse central spot and some ill-defined lateral ones devoid of clay pubescence ; carina behind basal third, evenly concave, curved forward at side, basal longitudinal carina not obsolete. Scutellum grey, transverse, produced into an acute point between the elytra. These not tuberculate, convex, slightly depressed behind at suture, depressed around the subbasal callosity, which is evenly convex and only slightly elevate, regularly punctate-striate, dotted with clay and black in alternate interspaces, a large transversely elliptical velvety-black spot in middle of suture, expanded between stripes 5, bordered with clay. Pygidium truncate, angles

rounded. Legs rufous at the joints, femora, underside and a subbasal ring on tibiae, and first and last tarsal segments (tip excepted) grey.

Length, 5½ mm.

Hab. Marco da Legua, Para, March 1895 (Gounelle).

1 ♂.

Aberrant in the possession of a basal longitudinal carina. I put this species provisionally in *Monocloeus*.

37. **Monocloeus niger** spec. nov.

♂. Black, uniform in colour, sparsely pubescent grey beneath, a few lateral dots on elytra. Rostrum as long as broad, porrect, rounded at sides, truncate-emarginate at apex, with a small central groove, coarsely rugate-punctate like head. Antennal cavity large, mandible broad. Lobes of false mentum acuminate. Frons half the width of the rostrum. Antenna short, segment 3 a little longer than 2 and 4, 8 very short, nearly as broad as long, 9 a little longer than broad, 10 triangular, sides somewhat rounded, as long as broad, 11 rounded, pale at tip, somewhat shorter than 10. Prothorax with large punctures, none in middle, a small mesial tubercle before carina ; apex roundedly produced (side-view !) ; black pubescence in short raised lines which are close together and are most obvious behind the carina ; the latter behind basal third, very feebly undulating, curved forwards at the sides. Elytra widest at shoulders, coarsely punctured in rows ; third interspace with three tubercles, besides the subbasal callosity, the last on declivous apical portion of elytrum, fifth and seventh interspaces with two each in and behind middle, these lateral tubercles very feebly elevate. Sterna punctured.

Length, 6 mm.

Hab. Zarzero, Costa Rica.

1 ♂.

Also a species aberrant for this genus in the porrect rostrum bearing large antennal grooves and the antebasal carina of the pronotum being obviously produced forwards at the sides.

Goniocloeus gen. nov.

♂♀. Close to *Homocloeus* and *Monocloeus*. Antennal cavity large. Basal longitudinal carina of prothorax present, antebasal carina flexed forward at sides, often extending beyond middle. Basal margin of elytrum convex, the base of the prothorax being more or less bisinuate for the reception of the anterior edge of the elytra. Elytra tuberculate ; body beneath coarsely punctured at least at sides. Lobes of false mentum acuminate.

Type : *G. baccatus* spec. nov.

For the present all those American species of this group of *Anthribidae* which have the eyes convergent and the carina of the prothorax prolonged forward at the sides may be put into *Goniocloeus*. The species are all coarsely sculptured. The basal margin of the elytra is in the typical forms convex near the scutellum and at the shoulders, and emarginate in middle. The rostrum is short and laterally rounded, more or less impressed mesially at the base, except in *armatus* and the new species described under No. 45, in which it is narrowed at the base and mesially carinate.

38. **Goniocloeus baccatus** spec. nov.

♀. Black; pubescence cinnamon-olive above, grey beneath; a large basal mesial spot on prothorax, widest at carina, contiguous with a smaller one situated in front of carina, ochraceous. Rostrum nearly twice as broad as long, truncate-emarginate, depressed at sides, with a deep central impression; upper edge of antennal cavity extended to near eye. Frons more than half the width of the rostrum, slightly bi-impressed anteriorly; occiput with mesial impression. Antenna rufous, club black-brown, segment 8 less than twice as long as broad, 9 long, nearly twice as long as broad, 10 also heart-shaped, longer than broad, 11 a little longer and broader than 9, widest beyond middle. Prothorax widest in middle, broader than long, dorsally produced forward (side-view!), sharply sinuate laterally before the dorsal carina, rounded dilated in middle, the lateral carina projecting here strongly and disappearing gradually; uneven, with several impressions, which are punctured, apex convex, a transverse row of three tubercles, middle one prominent; carina at basal third in middle, more basal laterally, angulate in middle and more strongly dorso-laterally, the points being directed backwards, subinterrupted mesially, flexed forward at sides, extending beyond middle, lateral angle obtuse but not obviously rounded off. Elytra half as long again as broad, with parallel sides, multituberculate, the pubescence on the top of the higher tubercles more or less tawny; third interspace with four tubercles of nearly the same height, but first longer, fifth interspace also with four, these smaller, the three posterior placed a little in front of the respective tubercles of the third interspace; seventh interspace with five, counting the one before apex and excluding shoulder; ninth interspace with three small but distinct tubercles in posterior half. Pygidium a little longer than broad, rounded. Underside coarsely punctured all over. Legs rufescent, a subbasal and a subapical ring on femora and tibiae rufous, pubescent grey; tarsi rufous.

Length, 6½ mm.

Hab. Espirito Santo.

1 ♀.

39. **Goniocloeus melas** spec. nov.

♀. Black, with very little pale pubescence, scutellum and a spot in front of it clayish; tibiae with a thin grey antemedian ring; circular end-segment of antenna luteous. Rostrum nearly twice as broad as long, without trace of carina, very coarsely punctate-rugate; upper edge of antennal cavity produced backwards, forming a carina which terminates beneath eye. Prothorax coarsely punctate, apex much less produced forwards than in *spiculosus* (1833) Gyll.; a mesial tubercle before carina; the latter situated at basal fourth, being much more basal than in the species mentioned, lateral angle a little over 90°, feebly rounded; sides sinuate behind middle. Elytra coarsely punctate-striate, similar to those of *capucinus*; subbasal tubercle higher than the others, there being four more in the third interspace, the posterior ones being the smallest; fifth interspace with five and seventh with four small tubercles, evenly distributed in each interspace, the first of the fifth interspace being subbasal, the first of the seventh antemedian.

Length, 6 mm.

Hab. Callanga, Peru.

1 ♀.

40. **Goniocloeus minor** spec. nov.

Like *melus*; but rostrum with trace of mesial carina at base, laterally more transversely impressed; frons only one-third the width of the rostrum; prothorax less coarsely punctate, deeper sinuate behind middle at sides; angle formed by basal longitudinal carina and antebasal one more acute, lateral carina longer, being longer than the distance from apical margin to tip of carina; tip of lateral angle of carina not rounded off; median tubercle of third interspace of elytrum as high as subbasal one, the others much smaller.

Length, $4\frac{1}{3}$ mm.

Hab. Surinam.

One specimen, apparently a ♀.

41. **Goniocloeus hirsutus** spec. nov.

♀. Black, clothed with a long pile on head, underside and legs, pubescence black, slightly variegated with clay and grey: a spot before scutellum clay; tips of tubercles clayish; two very thin rings on tibiae grey; antenna dark rufescent-brown, end-segment luteous.

Rostrum as long as broad, broadly depressed in middle and again laterally, the impression separated by subcariniform elevations which are continuations of the lateral frontal edge bordering the eyes; apical edge trisinuate. Segments 9 and 10 of antenna emarginate at apex, 10 transverse, 11 subcircular, a little broader than long. Prothorax with large impressed punctures like head, twice sinuate at the sides, the first sinus in front of the lateral carina which is high and terminates abruptly before middle of thorax, and a second time in front of the dorsal carina; disc uneven, with elongate apical elevations, and a transverse median row of three tubercles, the middle one of which is highest; carina feebly convex in middle, where it is interrupted, practically straight, evenly curved forward at sides, without indication of an angle. Scutellum white, twice as long as broad, elliptical. Elytra coarsely punctured: alternate interspaces tuberculated, third interspace with three high tubercles, one subbasal, the second median and the third, which is the highest, before apical declivity; antemedian tubercle of fifth interspace also prominent. Pygidium semicircular.

Underside coarsely punctured, except middle of metasternum, which is nearly smooth. Claw-segment rufescent.

Length, $7\frac{1}{2}$ mm.

Hab. Balsapamba, Ecuador (Haensch).

1 ♀.

42. **Goniocloeus apicalis** spec. nov.

♂. Black, the places covered with a pale pubescence rufous. Rostrum nearly twice as broad as long, truncate, broadly impressed at base and transverse in middle of sides, with a short basal mesial carina; coarsely punctate like the whole upper surface; upper edge of antennal cavity produced backwards towards underside of eye.

Frons half the width of the rostrum. Eye prominent, almost twice as long as broad. Antenna rufescent, rufous at base, segment 9 not longer than broad, 10 transverse, 11 subcircular, truncate at base. Prothorax much broader than

long, clayish like head and rostrum, variegated with black, two indistinct black basal spots, on each side an oblique black subapical submesial dash and a lateral discal median spot, this situated on a tubercle; a transverse row of three tubercles; carina at basal third, evenly convex from side to side, interrupted in middle, evenly arched forward at sides, without indication of an angle, the longitudinal portion not quite reaching halfway to apical margin; longitudinal basal carina vestigial. Scutellum grey, as long as broad, rounded. Elytra slightly variegated with clay, multituberculate, the tubercles tufted with tawny: third interspace with three large tubercles, of which the first is the highest, fifth interspace with three rather prominent tubercles from before middle to apical declivity, besides a small subbasal one; seventh interspace with four, exclusive of shoulder; a lateral marginal median spot clay; apex of suture conspicuously whitish grey, this streak ending at the prominent apical sutural tubercle. Femora greyish clay, basal half brown, a subapical spot rufescent; tibiae also pubescent clay, a subbasal spot rufescent, a broad median ring brown-black; tarsi brown, claw-segment and apex of first rufescent, greyish pubescent. Underside punctured, grey laterally, long-haired in middle, especially on meso-metasternum.

Length, $4\frac{1}{3}$ mm.

Hab. Cochabamba, Bolivia (Germain).

1 ♂.

43. **Goniocloeus tarsalis** spec. nov.

♀. Black-brown, densely clothed with ochreous clay, variegated with brown; tarsi rufous. Rostrum twice as broad as long, truncate, feebly trisinuate, depressed in middle and at sides, with a smooth, slightly elevate, mesial line. Upper edge of antennal cavity continued backwards, not reaching eye, a short carina above it at apex. Frons one-third the width of the rostrum, dispersedly but coarsely punctured like rostrum; brown, variegated with clay; occiput purer brown, thin mesial line and broad lateral vitta clay. Eye conspicuously edged with clay. Antenna black-brown, segment 3 a little longer than 4, 8 four times as long as apically broad, 9 half as long again as broad, 10 also triangular, longer than broad, 11 ovate, pale at tip, as long as 10. Prothorax widest before middle, where the carina terminates rather abruptly, dispersedly punctured, transversely depressed before middle and before carina, the two depressions connected with one another twice on disc; clay-colour, variegated with brown, four spots at base, a pair at apex (connected with one another at margin) and a transverse row of five in middle more conspicuous, punctures also brown; carina angulate in middle, the point directed backwards, curved forward at sides in an even arch. Scutellum clay, semicircular. Elytra oblong, multituberculate, densely marmorated and tesselated with brown; third interspace with three tubercles, first and third large, high, fifth and seventh interspaces with four each, apex of suture also strongly elevate, ninth interspace tuberculate-costate. Pygidium semicircular, apical half depressed. Underside dotted with large brown punctures. Femora ringed with brown; tibiae rufescent, a subbasal and a subapical ring grey.

Length, $8\frac{1}{2}$ mm.

Hab. San Carlos, Costa Rica.

1 ♀.

44. **Goniocloeus capucinus** spec. nov.

♀. Close to *speculosus* (1833) Gylh., rostrum somewhat longer; prothorax with a small mesial tubercle before carina; carina not interrupted, much less flexed backwards dorsolaterally; subbasal tubercle of elytrum and subapical ones much higher.

Length, 8½ mm.; breadth, 3½ mm.

Hab. Chanchamayo. Peru.

1 ♀.

45. **Goniocloeus umbrinus** spec. nov.

♂. Similar to *armatus* (1897) Jord., *Nov. Zool.* iv. p. 176. n. 6, described as a *Straboscopus*. Pale clay-colour. Rostrum longer than in *armatus*, half as long again as broad, with a sharply raised mesial carina which disappears before apex and extends on to frons. Occiput brown, with three sharply marked pale clay vittae, the lateral ones extending along upper edges of eyes. Pronotum with elliptical clay spots, encircled with brown, basal mesial patch not essentially paler than the others; lateral carina more rounded and prominent in dorsal view than in *armatus*. Elytra practically uniform in pattern, clay spotted with brown all over; tubercles not so high as in *armatus*, third and fourth of third interspace not so close together, the elytra being longer in *umbrinus*. Metasternum coarsely granulose in middle, where it is smooth in *armatus*. Abdomen punctured all over, not impressed, fifth segment with smooth mesial carina as in *armatus*. Midtibia (♂) with apical spur as in ♂ of *armatus*.

Length, 9 mm.

Hab. Mexico.

1 ♂.

Homocloeus gen. nov.

♂♀. Close to *Monocloeus*. Rostrum porrect, gradually narrowed basad, trisinuate at apex, with a mesial carina. Antebasal carina of prothorax more or less evenly concave, slightly curved forwards at the sides; basal transverse carina present; basal longitudinal carina absent. Eye less prominent than in typical *Monocloeus*. False mentum mesially carinate, smooth, glossy.

Type: *H. restitus* spec. nov.

46. **Homocloeus concolor** spec. nov.

♂. Black. Rostrum a little longer than apically broad, clayish, carina not extending to apex, which is coarsely punctured, continued to occiput. Frons more than half the width of the rostrum, longitudinally rugulose like occiput. Lobes of false mentum slightly acuminate. Antenna brown, segment 3 twice as long as 2, a little longer than 4, 8 dilated, as broad as long, club compact, broad, 9 little longer than broad, 10 transverse, 11 as long as broad, truncate at base, rufous at apex. Prothorax convex, slightly depressed transversely before carina, which is situated behind basal fourth, more distinctly depressed behind apex, clayish ochraceous, marmorated with black, a basal greyish clay mesial spot obrdered by a black spot on each side. Scutellum greyish clay, transverse, apex slightly rounded. Elytra punctate-striate, the punctures fine, concealed under the

pubescence ; tesselated with black and ochraceous clay, the tesselation especially conspicuous in the alternate interspaces, which are convex ; third interspace with black elevate spot in middle ; subbasal callosity high, compressed, with black patch on top. Pygidium ochraceous clay, marmorated with black, mesial line raised before apex, which is rounded. Prosternum punctate-granulate in middle, metasternum smooth in middle, abdomen feebly depressed. Underside pubescent grey, the pubescence condensed to spots laterally. Femora grey, spotted with brown ; tibiae with broad grey antemedian ring ; first tarsal segment grey.

Length, 4½ mm.

Hab. Marco da Legna, Para, March 1895 (Gounelle).

1 ♂.

47. **Homocloeus femoralis** spec nov.

♂. Brown, rufescent, clothed with a clayish pubescence, which appears in dots on the elytra, more grey beneath. Rostrum a little longer than apically broad, rugosely punctured, carina not extending to apex. Head longitudinally rugulose ; frons less than half the width of the rostrum, mesial carina very fine. Antenna brown, rufous at joints, segment 3=4, 8 incrassate, longer than broad. Prothorax somewhat longer than broad. Elytra longer than in the preceding, alternate interspaces subcostate, subbasal and median tubercle both high and compressed, second longer than first. Pygidium elevate mesially before apex, tuberculate. Middle of prosternum dispersedly punctate. Femora brown ; tibiae and tarsi pale rufous.

Length, 5½ mm.

Hab. Nicaragua.

1 ♂.

48. **Homocloeus vestitus** spec. nov.

♂ ♀. Rufous brown. Rostrum rather strongly dilated towards apex, punctured at apex, smooth proximally, carina flat, not reaching apex, extending to occiput, sulcate on frons ; a broad dorsal vitta on each side, extending over head, yellowish ochraceous. Carina of false mentum feebly raised, vestigial in front, lobes very strongly rounded, buccal fissure wide. Frons half as wide as the rostrum is in middle, practically smooth like occiput. A grey streak beneath eye. Antenna rufescent brown, proximal segments rufous, 3 twice the length of 2, a little longer than 4, 8 half as long again as broad, 9 longer than broad, 10 transverse, one-third broader than long, both sinuate at apex, the angles being somewhat produced, 11 twice as long as broad, rufous at tip. Prothorax longer than broad, impunctate, spotted with yellow-ochraceous, the mesial spots merged together to a broad vitta, a lateral apical spot continued downwards to coxa, carina rather strongly concave. Scutellum transverse. Elytra broadly impressed from subbasal callosity beyond middle as far laterad as stripe 4 ; clayish pubescence in spots and streaks which are partly arranged in transverse rows and are confluent in sutural depression ; subbasal callosity very feebly raised ; no tubercles. Pygidium longer than broad, evenly rounded. Sterna impunctate, excepting some large punctures on the neck of the mesosternum, concealed underneath the prosternum. Meso-metasternum with a clay patch in front and another behind ; abdomen with clayish grey apical bands at the sides strongly thinning mesiad. Legs long, black-brown, sparsely

pubescent grey, knees rufous, upperside of tibiae brown, no rings or spots; hindtibia compressed, black like the first tarsal segment.

Length, 6 mm.

Hab. French Guiana.

1 ♂.

49. **Homocloeus dorsalis** spec. nov.

♀. Rufous brown. Rostrum longer than broad, densely punctate-rugulate; a broad mesial vitta yellowish ochraceous, extending over head; carina flat, reaching apex. Frons more than half the width of the rostrum (in middle). A grey streak beneath eye. Antenna rufous, club brown, except tip, segment 3 twice the length of 2, one-third longer than 4, 8 incrassate, nearly twice as long as broad, 9 one-third and 11 one-fourth longer than broad, 10 twice as broad as long. Prothorax impunctate like sterna, longer than broad, with broad yellowish ochraceous mesial vitta, which is narrower than that of head; sides sharply dotted with the same pubescence. Elytra with a large sutural depression as in *cestitus*; this depression filled in with a yellowish ochraceous patch, which extends to scutellum, and in which there are vestiges of minute brown dots, especially at the suture; rest of elytra sharply dotted with a similar pubescence; stripes of punctures distinct, but very feebly impressed; no tubercles. Pygidium rounded, dotted with pale ochraceous. Underside brown in middle, dotted with greyish clay at the sides, prosternum with clayish grey vitta separating the dotted area from the unicolorous central area. Legs long, entirely rufous.

Length, 6 to 8 mm.

Hab. Espirito Santo.

A series.

Trachytropis gen. nov.

♀. Close to *Goniocloeus*. Rostrum twice as long as broad, narrowest near base. Lobes of false mentum strongly rounded. Gula mesially carinate. End-segment of antenna small, 10 transverse. Eyes lateral, widely separate, the frons being anteriorly little narrower than the rostrum. Prothorax deeply grooved, carina very irregular, flexed forward at sides, projecting as a high rounded lobe in middle of side (dorsal view). Underside densely punctate-rugate. Pubescence of legs stiff, rough; hindtibia rather strongly but gradually widening from base to apex.

Type: *T. asper* spec. nov.

50. **Trachytropis asper** spec. nov.

♂. Black, slightly clayish above, greyish beneath, without distinct pattern. Rostrum deeply impressed mesially from base beyond middle, with an additional, rounded, groove on each side above at apical fourth. Head with several grooves. Antenna short, segments 1 to 8 rufescent, 3 = 4, a little longer than 2, 6 to 8 gradually thicker, 8 nearly as broad apically as long, club broad, 9 triangular, as broad at apex as long, sinuate, 10 transverse, sinuate, nearly twice as broad as long, with straight sides, 11 much narrower than 10, about as long as broad, rounded, subacuminate. Prothorax broader than long, with a very large central impression bearing a small mesial tubercle, and another large impression at each side, the ridges separating the three grooves from one another being high, bottom of grooves uneven; carina broadly and rather deeply concave in middle, then

convex and again concave, laterally convex again before being flexed forward in an obtuse angle, extending beyond middle of side ; base bisinuate. Elytra strongly tuberculate, with parallel sides, more than half as long again as broad, third interspace with three large tubercles, besides a small subapical one, first the largest, fifth interspace with four rather prominent tubercles, interspaces 7 and 9 pustulate. Pygidium semicircular.

Length, 8 mm.

Hab. Mexico (ex coll. Boucard).

1 ♀.

51. **Nemotrichus vitticollis** spec. nov.

♀. Rufescent brown ; pubescence of upperside grey, variegated with brown. Middle of occiput brownish. Pronotum with a brown mesial vitta which is constricted in middle, and is divided at apex and in middle by a thin grey mesial line ; sides sparsely dotted with brown. On elytra an irregular median sutural patch, including grey dots and connected with a lateral antemedian spot by means of some dispersed dots, an elongate spot on subbasal convexity prolonged to basal margin, a postmedian lateral spot and numerous small spots in apical area, as well as a number of dots behind shoulder, all brown. Pygidium with brown lateral spot. Underside of body unicolorous, excepting a brown dot on metasternal episternum. Apical half of tibiae brown.

Club of antenna very slender, segment 9 about three times as long as broad, 11 very pale. Prothorax nearly twice as broad as long, slightly depressed before dorsal carina, which is feebly biconvex ; lateral carina short, not reaching middle. Elytra coarsely punctate-striate, the interspaces convex. Pygidium rounded-triangular. Sterna without large punctures. Mesosternal process evenly rounded, not tuberculiform, triangular, with the apex rounded.

Length, 5½ mm.

Hab. Cayenne.

1 ♀.

52. **Nemotrichus armatus** spec. nov.

♂. Brown. Eye edged with luteous grey. Segment 11 and apex of 10 of antenna pale luteous. Pronotum sparsely pubescent clay, a distinct mesial vitta more densely pubescent grey, interrupted in middle, sides also densely grey, a lateral spot in front of dorsal carina produced forward. Elytra pubescent clay ; a patch before middle and another before declivous apex grey, situated between suture and fifth interspace, the first not reaching suture, in front of each patch a black angle-shaped mark, the first produced forward ; a grey spot at lateral edge before and another behind middle, each bordered by a brown spot in front and behind ; some brown spots behind the grey dorsal patches. Pygidium with brown spot at side. Apex of tibiae brown ; base of tibiae and the tarsi rufous, second and third segments slightly darker.

Frons broader than the eye is high in frontal view ; antenna reaching beyond base of elytra ; segment 9 very little longer than 8, half as long again as 10. Prothorax conical, lateral carina not reaching middle, dorsal carina almost straight, feebly concave. Elytra straight at basal margin, coarsely punctate-striate, third interspace subcostate behind. Pygidium rounded-triangular. Sterna punctured

at sides; mesosternal process vertical, apical portion horizontal. Abdomen (♂) slightly depressed. Midtibia with acute tooth at apex. No combs or spines on midcoxa and -femur.

Length, 5½ mm.

Hab. San Carlos, Costa Rica (Schild-Burgdorf).

1 ♂.

53. **Nemotrichus niger** spec. nov.

♂ ♀. Black: upperside sparsely irrorated with cinereous, this colour most distinct behind the base and before the apical declivity of the elytra where the grey pubescence forms indistinct patches or transverse bands; a sutural postmedian indistinct spot black; grey pubescence denser on underside, but not covering the whole surface: first tarsal segment grey, last more or less rufous and also clothed with a grey pubescence. Scutellum grey. Antenna rufous, club brown. Antennal segment 9 longer than 11. Prothorax almost twice as broad as long, sides strongly rounded before base, dorsal carina broadly concave in middle. Elytra coarsely punctate-striate, the alternate interspaces slightly elevate. Pygidium short, in ♂ truncate with the apical edge feebly angulate in middle, in ♀ truncate-sinuate. Sides of sterna coarsely punctured; process of mesosternum convex, almost tuberculiform. Abdomen of ♂ flattened in middle, not impressed, anal segment truncate, with the angles projecting, rufescent at apical edge; anal segment of ♀ rounded at apex, very feebly sinuate; ♂ without combs of spines on midcoxa and -femur.

Length, 4½ to 8 mm.

Hab. Jatahy, Goyaz, *type*; San Antonio da Barra, Bahia, November—December 1888 (Gounelle).

A series.

54. **Nemotrichus poecilus** spec. nov.

♀. Black; eye edged with olive-clay. On pronotum a short linear central spot, two similar dorsal spots at apical margin and several dorso-lateral spots and lines the same colour, sharply defined like the spots of the elytra. Elytra ornamented as follows: an oblong basal sutural patch including the black scutellum and a black postscutellar spot, another patch on each elytrum between first and fifth interspaces composed of lines, touching in interspace 2 the basal patch, the three including between themselves a black sutural spot; the antemedian patch continued in interspaces 6 to 10 by shorter stripes which are gradually more anal in position forming an oblique band of spots; between this band and base there are some more spots; another but more distinct band extends from behind middle of suture to outer margin, which it reaches at apical third, being oblique, continued forward at suture by olive-clay tesselations; area from this band to apex spotted with olive-clay. Pubescence of femora and of underside of body grey; an apical spot on prosternum underneath the lateral line of the pronotum, and a larger one on side of metasternum black; abdomen without side-spots; first tarsal segment and basal half of tibiae greyish yellow; claw-segment rufous.

Club of antenna long, the segments narrow, widest in basal half, three times as long as broad, segment 9 twice as long as 8. Prothorax widest at antebasal carina; this dorsally very feebly biconvex, laterally not reaching middle. Elytra

cylindrical, more deeply punctate-striate than in *barbicornis*. Pygidium gradually produced into a glossy, rufescent, truncate process ; last abdominal segment with a similar prolongation. Mesosternal process vertical, curved backwards at apex, not at all tuberculate.

Length, 5 mm.

Hab. Jatahy, Goyaz.

1 ♀.

55. **Nemotrichus fuscus** spec. nov.

♀. Brown ; head and pronotum rather sparsely irrorated with olive-clay ; a large postbasal patch across the suture of the elytra composed of olive-clay spots separated into dots laterally, dilated on suture forwards and backwards, ill-defined, a similar transverse patch before apical declivity, the apical area more or less densely dotted with olive-clay ; pygidium sparsely olive-clay ; underside and legs more densely pubescent, clayish grey ; apical half of tibiae, foretarsus and segments 2 to 4 of the other tarsi black or brown, femora spotted with brown, a spot at base of tibiae also brown ; scutellum olive-grey.

Club of antenna brown, broad, segment 9 somewhat shorter than 11, half as long again as broad. Prothorax widest before base, almost gradually narrowed to apex, slightly convex on disc, somewhat depressed before base, carina biconvex. Elytra more gradually declivous behind than in *barbicornis*, coarsely punctate-striate. Pygidium evenly rounded at apex, apical edge slightly turned up. Sterna coarsely punctate at sides. Process of mesosternum narrow, convex, not tuberculate.

Length, 5 to 7 mm.

Hab. Jatahy, Goyaz.

3 ♀♀.

56. **Nemotrichus jekeli andicola** subsp. nov.

♀. A brown band on elytrum extending from shoulder to middle of suture, sinuous dorsally, irrorated with clayish grey dots, a brown spot on declivous apical portion of elytrum ; all the tibiae brown at apex ; tarsi entirely grey ; meso-metasternum more extended brown than grey ; sides of abdomen more brown than in *jek. jekeli*.

Hab. Ecuador.

1 ♀.

57. **Nemotrichus jekeli uniformis** subsp. nov.

♀. The tibiae and tarsi entirely grey.

Hab. Espirito Santo.

2 ♀♀.

58. **Nemotrichus obtusus** spec. nov.

♂♀. In shape and colour similar to *N. barbicornis* (1801) Fabr. Pubescence more white ; variegated with brown in a similar way as in *barbicornis*, but the brown markings deeper in tint and therefore more conspicuous ; two or three black spots in middle of elytrum from first to fifth interspace, more or less contiguous, situated in a clayish patch. Antenna short ; end-segment paler than the preceding ; segment 9 hardly twice as long as broad (♂♀). Prothorax wider behind than in *barbicornis*, the sides more swollen above the carina in

apical half and more distinctly sinuate behind middle: carina less widely rounded laterally. Pygidium of ♂ truncate, depressed laterally, elevate mesially, not mucronate: of ♀ rounded-triangular, apical edge slightly turned upwards, middle granulose, not transversely subcarinate before apex as it is in *barbicornis*. Mesosternal process less prominent than in *barbicornis*.

Length, 4 to 9 mm.

Hab. Jatahy, Goyaz.

A long series.

The genus *Nemotrichus* differs from *Corrhecerus* in the carina of the pronotum being antebasal.

The species of *Nemotrichus* can be distinguished as follows:

a. Pronotum and elytra broadly depressed	*N. pilicornis* (1801) Fabr.
Elytra not depressed, cylindrical .	*b.*
b. Pronotum with broad brown-black mesial vitta	*N. vitticollis* spec. nov.
Pronotum without this vitta . .	*c.*
c. Second tarsal segment grey like first	*N. jekeli* (1859) Pase.
Second segment or the whole tarsus brown or black	*d.*
d. Elytra grey, with a sharply defined black sutural spot, which is subtruncate in front and sinuate behind	*N. dorsomaculatus* (1855) Jek.
Elytra each with two grey spots near suture, one subbasal, the other subapical, each spot anteriorly bordered by a black angle-shaped mark, third interspace subcostate behind .	*N. armatus* spec. nov.
Elytra different in pattern . . .	*e.*
e. Fore- and midtibiae grey, unicolorous, body dotted with clayish grey . .	*N. jekeli* (1859) Pase.
Fore- and midtibiae brown, at least at apex	*f.*
f. Abdomen without row of brown lateral spots: black colour prevalent on upperside	*g.*
Abdomen with row of brown lateral spots: grey colour prevalent on upperside	*i.*
g. Pale pubescence of upperside sparse, not forming a conspicuous pattern, legs practically unicolorous. The species appearing nearly black .	*N. niger* spec. nov.
Pale pubescence distinct; pale base and dark apex of tibiae strongly contrasting	*h.*
h. Scutellum clay, pronotum minutely dotted with olive-clay . . .	*N. fuscus* spec. nov.

	Scutellum black; pronotum and elytra with a sharply defined pattern .	*N. poecilus* spec. nov.
i.	Pygidium of ♂ strongly mucronate, of ♀ mesially sulcate and before apex transversely carinate . .	*N. barbicornis* (1801) Fabr.
	Pygidium of ♂ not distinctly mucronate, of ♀ not transversely carinate before apex; whitish grey and brown markings of upperside rather strongly contrasting . .	*N. obtusus* spec. nov.

59. **Corrhecerus melaleucus** spec. nov.

♂. Black-brown, densely clothed with a greyish white pubescence; side of rostrum, on pronotum a series of three lateral dots and a broad, irregular, laterally sinuous, mesial vitta, including a white spot behind apex and another behind middle, on elytra a small marginal spot close to scutellum, a patch on subbasal convexity, another on shoulder, a fourth at lateral margin in middle, a spot at basal third of suture, a broad, transverse, sinuous band before apical declivity, produced posticad on suture, this projection contiguous or merged together with a spot on each elytrum, a lateral marginal subapical patch, besides some dots on disc, black; tarsal segments 2 to 4 brown.

Frons narrower than in *flaccidus* (1833) Gyll.; pronotum much more evenly convex, carina subangulate in middle, feebly biconvex; elytra cylindrical, more elongate than in *flaccidus*, subbasal convexity feeble; pygidium mesially sulcate, acuminate, tip truncate; mesosternal process declivous, not tuberculate.

Length, 6½ to 9½ mm.

Hab. "Brazil," *type;* Espirito Santo.

2 ♀♀

60. **Corrhecerus aequalis** spec. nov.

♂ ♀. In appearance similar to *Nemotrichus barbicornis* (1801) Fabr. Brown-black, covered with a grey pubescence, mixed with pale ochraceous; four brown spots on occiput; a number of brown spots on the pronotum, five of them in front of the basal carina; a spot on shoulder angle, a patch on the anterior side of the subbasal convexity, a lateral marginal spot before middle, a narrow transverse band of spots from middle of suture obliquely backwards and some irregularly dispersed dots, brown; pygidium brown at sides and apex; a spot on episternum and sternum of metathorax and a lateral row of dots on abdomen brown; abdomen with a vestige of a second row of spots further ventrally; legs rufous, femora slightly darker, especially beyond middle, tibiae with a more thinly pubescent ring before apex; antenna rufous at the joints.

Frons broader than in *N. barbicornis*. Prothorax deeply depressed before carina, somewhat flattened on disc as in *C. flaccidus*, basal carina very slightly biconvex; elytra cylindrical; pygidium semicircular; process of mesosternum vertical, produced forward, its apical surface on a level with metasternum, pentagonal; abdomen of ♂ slightly depressed in middle.

Length, 9½ mm.

Hab. Cayenne.

One pair.

61. **Discotenes consors** spec. nov.

♀. Broader than *coelebs*, rostrum proportionally wider, with a more distinct mesial carina : three white spots on disc of pronotum, situated in a triangle, more prominent, dorsal lateral subbasal clayish spots smaller; black band of elytrum obliqne, extending from basal third of lateral margin to middle of second line of punctures, behind this band there are laterally some black spots corresponding to the lateral portion of the band of *coelebs*, punctured stripes deeper impressed, tesselation more distinct, apical area more variegated.

Hab. Chanchamayo, Peru.

1 ♀.

Dasyrhopala gen. nov.

♂. Rostrum broader than long, stout, flat, with straight sides. Antennal groove small, rounded behind, halfmoon-shaped, separate from eye, not covered. False mentum short, lobes acute, sinus very broad; underlip deeply divided. Antenna (♀) reaching beyond base of elytra, thin, segments 1 and 2 incrassate, short, 3 the longest, longer than 1 + 2, 4 nearly as long as 3, longer than 5, 5 to 6 decreasing in length, club loose, hairy beneath, consisting of four segments, 8 being dilated, triangular, at least as long as 9, but not so broad, 10 triangular, a little shorter than 9, 11 elliptical. Eye more finely granulate than in *Lagopezus*, more coarsely than in *Discotenes*, small, lateral, distinctly and broadly emarginate. Prothorax much longer above than at sides, being produced forward above, strongly convex ; carina at basal third, not flexed forward at sides, subbasal carina vestigial at sides, basal longitudinal one absent. Elytra evenly emarginate together, convex. Process of mesosternum narrow, triangular, rounded at apex. Pubescence of legs rough; tibiae compressed, broad, hindfemur nearly reaching tip of abdomen.

Type : *D. tarsalis* spec. nov.

Connects *Discotenes* with *Lagopezus* and *Piezocorynus*, easily recognised by the eye, antenna and tibiae.

62. **Dasyrhopala tarsalis** spec. nov.

♂. Rufescent, clothed with a grey pubescence, minutely irrorated with rufescent, alternate interspaces very indistinctly dotted. Rostrum half as broad again as long, flat above, with trace of a basal double impression, apex emarginate. Frons, occiput and rostrum in a plane, rugulose. Antenna rufous at the joints. Prothorax dorsally longer than broad, evenly convex, rounded at the sides, widest at the antebasal carina, which is angulate in middle and again laterally, the point of the angles directed basad ; base truncate. Elytra evenly depressed at base, gradually rounded-declivous from before middle, deeply punctate-striate, interspaces convex, especially the alternate ones, third with an elongate subbasal tubercle and a lower one just before middle. Pygidium longer than broad, evenly rounded at apex. Prosternum somewhat flattened in middle. Tarsi pubescent white ; first segment of foretarsus one-third the length of the tibia.

Length, 5½ to 6 mm.

Hab. Brazil.

2 ♂♂.

Eucyclotropis gen. nov.

♂ ♀. Similar to *Dasyrhopala*. Rostrum short. Antennal cavity open. Antenna shorter than in *Dasyrhopala*, club not so hairy. Eye entire or subemarginate. Carina of prothorax curved forward in an almost even arch, gradually disappearing, concave from side to side.

Type: *E. pustulata* spec. nov.

63. Eucyclotropis pustulata spec. nov.

♂ ♀. Brown-black, rather densely pubescent olive-cinnamon. Rostrum nearly twice as broad as long, emarginate at apex, flat, antennal cavity widely open, transverse, the rostrum appearing incised in dorsal aspect, upper edge of cavity marginate, the anterior portion (if thought prolonged) dorsal of the eye. Lobes of false mentum completely rounded at end. Antenna short, rufescent, segment 3 hardly as long as 2, 8 as long as broad, club compact, 9 triangular, as long as broad, 10 transverse, 11 broader than long. Prothorax plicate-rugate, much longer above than at side, produced forward (side-view!), sinuate in middle at apex, convex, strongly rounded at sides, widest just behind middle, a double mesial tubercle with black tufts. Scutellum white. Elytra of nearly even width from shoulder to apical declivity, emarginate together at base, with rows of large punctures, the stripes not much impressed, except sutural one, interspaces finely granulose; alternate interspaces pustulated with black, a large black pustule in third interspace in middle, basal callosity distinct, divided. Pygidium rounded. Tibiae with a grey antemedian ring. First tarsal segment short, about one-fourth the length of the tibia.

Length, $4\frac{1}{3}$ mm.

Hab. Caraça, Minas Geraës, December 1885 (Gounelle).

One pair.

64. Eucyclotropis striata spec. nov.

♀. Black, densely irrorated with a coarse white pubescence, mesial line of pronotum white, elytrum with ten white lines extending from base to apex, alternate ones feebler. Rostrum impressed mesially at base; antennal cavity occupying the whole side, its upper edge cariniform. Eye coarsely granulate, feebly emarginate. Lobes of false mentum strongly rounded. Antenna stout, segment 1 rufous, 2 twice as long as broad, twice the length of 3, this much shorter than 4, which is about as long as 2, 5 to 8 nearly the same in length, 8 dilated, club compact, 9 broader than long, 10 twice as broad as long, 11 as long as broad, sinuate at anterior side near apex. Prothorax twice as broad as long, as broad at apex as at base, wider at apex than head inclusive of eyes, basal margin evenly convex, parallel to antebasal carina, basal angles strongly rounded, side rounded, cariniform, giving the dorsal carina the appearance of being continued to apical angle. Elytra strongly convex, not depressed at suture, irregularly punctured, without the usual stripes of punctures. Pygidium and last sternite subtruncate. First tarsal segment one-fourth the length of the tibia.

Length, $3\frac{1}{2}$ mm.

Hab. San Antonio da Barra, Bahia, November—December 1888 (Gounelle).

1 ♀.

The shortness of the third antennal segment is a very peculiar character. This species and *pylades* agree in the broad prothorax being cariniform at the side. They form perhaps a genus distinct from *Eucyclotropis*.

65. **Eucyclotropis pylades** spec. nov.

♂. Rufescent brown, variegated with a coarse brown and clay pubescence. Upperside of head and rostrum in a plane, greyish clay, coarsely punctate-rugate. Antennal groove occupying four-fifths of the side of the rostrum, rounded behind and below: its upper edge cariniform, slightly covering the groove. Lobes of false mentum subacuminate. Antennal segments 1 and 2 rufous, the others rufescent (7 to 11 missing), 3 nearly as long as 1 + 2, a little longer than 4, 6 reaching nearly to middle of prothorax. Prothorax twice as broad as long, coarsely rugate, greyish clay apically at sides, broader apically than head inclusive of eyes, widest at antebasal carina, gradually rounded-narrowed from carina forwards, longer above than at side, carina at basal sixth, lateral portion of the same short, but side of prothorax itself cariniform, so that the carina appears to be continued to apex, basal longitudinal carina feebly marked, forming a very acute angle with the oblique lateral portion of the dorsal carina. Scutellum greyish clay, rounded, small. Elytra short, convex, coarsely punctate-striate, the interspaces more or less convex, especially the alternate ones, which are rather distinctly tesselated or dotted with brown-black and greyish clay; middle of third interspace black; subbasal and apical areas rather more densely clayish than rest of elytra. Pygidium semicircular, greyish clay. Sterna punctate at sides. Prosternum very short mesially, transversely sulcate. Mesosternal process narrow, rounded at apex. Metasternum mesially shorter than first abdominal segment. A narrow antemedian ring on tibiae and apical half or third rufous, pubescent clayish grey. Tibiae hooked at apex (♂).

Length, 5½ mm.

Hab. Sierra de Durango, Mexico.

1 ♂.

Barra gen. nov.

♂. Rostrum flat, rather thin, widest near tip, longer than broad, not carinate, truncate, with trace of sinus. Frons and occiput slightly receding, not quite in a plane with rostrum. Underlip flat, sinuate, not divided down to insertion of palpus. Lobes of false mentum rounded at apex. Antennal groove lateral, covered, produced forward, sharply limited behind and below, distant from eye, occupying apical half of side. Antenna long, segment 1 incrassate, short, 2 thinner and somewhat longer, 3 to 7 very thin, of nearly equal length, 3 the longest, more than twice as long as 2, 8 rather thicker, but not triangular, longer than 9, this triangular, truncate at apex, nearly twice as long as broad, half as long again as 10, this also triangular with the sides rounded, 11 ovate, a little longer than 10, all the segments with some rather long hairs, club somewhat pilose beneath, but not so hairy as in *Dasyrhopala* and *Lagopezus*. Eye lateral, somewhat elliptical, rather coarsely granulate, indistinctly emarginate. Prothorax longest above, slightly sinuate at apex above in middle, conical, one-fourth broader than long, carina at basal eighth, straight, feebly concave laterally, flexed forward in an even arch, not extending to middle, subbasal carina complete, very distinct, basal

longitudinal carina present, anteriorly flexed laterad, forming a very acute angle with the antebasal carina. Elytra truncate at base, pleural edge not angulate at base.

Type: *B. gounellei* spec. nov.

Allied to *Piezocorynus* and *Lagopezus*.

66. **Barra gounellei** spec. nov.

♂. Brown above, irrorated with clayish grey; rufescent beneath, pubescent grey. Rostrum about one-fourth longer than broad, with a shallow subbasal mesial impression. Antenna rufescent, rufous at base, reaching to middle of elytra or beyond, segments 9 and 10 brown, 11 luteous. Pronotum granulose-rugulose, convex, a basal mesial clayish patch, produced forward as a line to middle of disc, accompanied at each side by a black basal spot, upon which follows at base laterally a small clayish spot, a thin indistinct apical mesial line also clayish, single clayish grey scale-like hairs scattered over the surface, as is the case on head and elytra. Scutellum clayish. Elytra convex, rounded-narrowed from middle backwards, coarsely punctate-striate, depressed at base, alternate interspaces with elongate clayish spots. Pygidium semicircular. Prosternum finely granulose. Sides of meso- and metasternum impunctate. A broad subbasal ring on tibiae and the tarsi rufous, pubescent grey, tip of first and the second tarsal segments black-brown.

Length, 4½ mm.

Hab. San Antonio da Barra, Bahia, November—December 1888 (Gounelle), *type*; Espirito Santo.

2 ♂♂.

67. **Lagopezus lugubris** spec. nov.

♂. Similar to *tenuicornis* (1801) Fabr., shorter and broader. Segment 8 of antenna longer than 9. Dorsal carina of prothorax five times sinuate. First and second interspace of elytrum flat, not tesselated, third with two black tubercles, one in middle, the other farther back, interspaces 5 and 7 also with some black raised dots. First tarsal segment shorter than in *tenuicornis*, claw alone rufous.

Hab. Itatiaya, Rio de Janeiro, 850 m., February 1899 (Gounelle).

1 ♂.

Piezonemus gen. nov.

♂♀. Rostrum at least twice as broad as long, apical margin laterally very oblique. Eye elongate-elliptical, oblique. Antennal cavity underneath eye, not in front of it. Frons trapeziform. Pygidium of ♂ rounded at apex, marginate, much longer than broad; of ♀ tuberculate before apical edge, broadly sulcate mesially, the sulcus divided basally. Midtibia of ♂ with tooth at apex, first midtarsal segment dilated at apex on innerside; hindtibia of ♂ with a crest of long soft hairs. Carina basal, angle acute.

Type: *P. durus* spec. nov.

Closely allied to *Piezocorynus*, but recalling by the pygidium of the ♀ also *Corrhecerus* and *Nemotrichus*. It differs from the former especially in the long eye projecting forward above the antennal groove and being very oblique.

68. **Piezonemus durus** spec. nov.

♂♀. Black; on upperside sparsely irrorated with whitish grey; head, scutellum and underside denser grey; alternate interspaces of elytrum inconspicuously and rather sparsely tesselated with grey; femora, tibiae and base of first tarsal segment grey, two large patches on tibiae and the tarsi black; antenna rufous brown, apex of last segment luteous.

Rostrum transversely depressed, slightly curved upwards at apex in lateral aspect. Frons anteriorly about one-third the width of the rostrum, broader in ♀ than in ♂. Antenna reaching in ♀ to basal fourth of elytrum, being a little longer in ♂ than in ♀, similar to those of *Piezocorynus tristis*, segment 3 longer than 4 in both sexes, 8 shorter than 7, in ♂ nearly as long as 9, this triangular, truncate, one-third longer than broad, 10 transverse, about twice as broad as long, 11 ovate, nearly as long as 9. Prothorax sculptured as in *Piezocorynus*, conical, with straight sides, feebly convex above, slightly depressed before carina; this straight in middle, very feebly convex laterally, angle less than 90°, sharp, lateral carina vanishing in middle. Scutellum longer than broad. Elytra subcylindrical, basal edge of each convex, subbasal callosity feebly raised, punctured stripes rather deep, interspaces feebly convex. Apical tubercle of pygidium of ♀ divided, high. Mesosternal process triangular, narrow, declivous. Metasternum of ♂ flattened in middle like abdomen, convex laterally. Last abdominal segment of ♂ less than twice the width of the preceding one in middle, here hardly wider than at the sides. Fore- and midtibia of ♂ somewhat curved; first midtarsal segment of ♂ less than one-third the length of the tibia, much shorter than the other segments together; third segment of all the tarsi large; claw-segment long.

Length, 4 to 5 mm.

Hab. Jatahy, Goyaz.

A series.

69. **Piezonemus lateralis** spec. nov.

♂♀. Similar to *P. durus*, differing from it in the following characters: Sides of elytra rufescent; legs rufous, except middle of femora and a broad postmedian ring of tibiae which are black; a spot at base of tibiae brown. Eye longer. Fourth antennal segment of ♀ longer. First midtarsal segment of ♂ longer than the others together, being much longer than in *durus*; first hindtarsal segment of ♂ more than half the length of the tibia; the latter with a much denser crest of long hairs; last abdominal segment of ♂ in middle twice as wide as laterally, and nearly thrice as the preceding segment, with a triangular flattened space in middle and the mesial line a little raised. Pygidium longer and narrower, the apical transverse ridge of ♀ not so high as in *durus* and not deeply divided.

Length, 3 to 4 mm.

Hab. Jatahy, Goyaz.

A series.

Synonymical note:—

Though the typical species of *Camptotropis* (*gracilicornis*) is different enough from the typical species of *Piezocorynus* (*dispar*) in the antenna and the prothoracic carina, the two supposed genera intergrade completely. The position

of the dorsal carina of the prothorax is basal in some species, subbasal in others and antebasal in others again. According to the antennae the species can be separated into two groups, one in which the club is loose, the tenth segment being triangular, and a second in which the club is more compact, the tenth segment being transverse. But this division, though convenient for a key, is not natural, some of the species with a loose club coming otherwise very close to *dispar* with compact club. Moreover, the club of *P. tristis* and *basalis* is intermediate.

70. Piezocorynus brevis spec. nov.

♀. Short, brown-black, abdomen rufescent; a thin mesial line on occiput and at apex of pronotum white; a broad band from base of pronotum near middle obliquely outward beyond middle of disc velvety black; suture ochraceous, except at base, dotted with black.

Rostrum and head as in *gracilicornis*; antennal groove smaller, almost open; eye much smaller; underlip entire. Antenna brown, end-segment luteous, club loose, segment 9 a little longer than broad, 10 nearly as long as broad, 11 a little longer than 9. Prothorax obviously longer above than at side, with black mesial tubercle before middle, carina subbasal, shallowly bisinuate, laterally flexed forward in an even arch, longitudinal portion very short. Elytra short, finely striate-punctate, interstices not at all convex, subbasal convexity very prominent, tuberculiform, black, a smaller black elevation in middle and two black pustules on declivous apex, also in third interspace. Underside with a sparse white pubescence. Tarsal segments 3 and 4 rufescent. Anal sternite as short as fourth.

Length, 5½ mm.

Hab. Colombia.

1 ♀.

71. Piezocorynus plagifer spec. nov.

♂♀. Similar to *P. dispar* (1833) Gyll. The clayish patch of elytra extending to apical declivity in interspaces 1, 2 and 3, and interspace 5 tesselated. Antenna deeper brown-black, segments 1 to 8 rufous at tip, thicker than in *dispar*, 8 compressed in ♂, triangular, half as long as apically broad, also rather broad in ♀, club shorter and broader than in *dispar*.

Hab. Jatahy, Goyaz, *type*; Turrialba, Costa Rica.

1 ♂, 3 ♀♀.

72. Piezocorynus compar spec. nov.

♂. Pronotum with a rather large mesial apical greyish clay spot. Clayish patch of elytra occupying interspaces 1 to 4, the patch truncate before apical declivity, obliquely truncate in front on each elytrum, not reaching scutellum, anterior edge running across subbasal callosity, four spots in fifth interspace (the first the longest) joined to the patch, interspaces 1 and 3 slightly greyish within patch, the first with some minute black dots, the third with one large black dash in middle and a black dot farther back. Pale antemedian and apical rings of tibiae conspicuous. Segments 10 and 11 of antenna luteous, 8 more than twice as long as broad, elongate-triangular, angles not produced, 9 a little longer than broad, 11 almost circular. Prothorax more conical than

in *dispar* and *plagifer*, the hinder angle projecting laterad: carina basal, angle less than 90°, lateral carina curved upwards in middle as in *gracilicornis*. Scutellum minute, half the width of that of *dispar*.

Hab. Cayenne.

1 ♂.

73. **Piezocorynus verrucatus** spec. nov.

♀. Black; very sparsely irrorated with grey above, densely grey beneath; tibiae with grey ring in middle and at apex; claw-segment rufous; two minute dots on head close to eye and a larger mesial spot at apex of pronotum greyish white; three dots behind carina, and scutellum sparsely grey; elytrum with the sutural interspace tesselated with black and clayish grey from before middle to apical declivity, second and third interspaces ochraceous to the same extent, third with a black tubercle in middle and some dark dots, fourth and fifth with a small greyish ochraceous spot before apical declivity: the patch thus formed stopping behind the subbasal callosity, which is strongly elevate, tuberculiform, clothed with black hairs on the top. Antenna rufous brown, segment 8 much shorter than 7, but a little broader at apex, club loose, 9 and 10 triangular, truncate, 9 one-fourth longer than broad, 10 slightly rounded at the sides, as long as broad, 11 pale at apex, ovate, nearly as long as 9, a little longer than broad. Pronotum with central tubercle situated in a rather deep depression, sides of disc elevate; carina subbasal, angle less than 90°, lateral carina not reaching middle. Elytra transversely depressed between subbasal callosity and median tubercle, fifth interspace subtuberculate before apical declivity and feebly elevate also in middle, where it is black.

Length, 2½ mm.

Hab. San Antonio da Barra, Bahia, November—December 1888 (Gounelle), *type*; Valley of the Rio Pardo, Sao Paulo, December 1898 (Gounelle).

2 ♀♀.

74. **Piezocorynus suturalis** spec. nov.

♂. Black, sparsely irrorated with grey above, denser grey beneath, tibiae ringed with grey in middle and at apex, claw-segment rufous; two dots on head close to eye, a mesial apical spot and three basal dots on pronotum, scutellum and a large sutural area on elytra greyish clay, somewhat ochraceous; this area reaching from scutellum to apical declivity, narrowed in front, its oblique anterior edge running across the inner side of the subbasal callosity, rounded-truncate behind, expanded between the sixth stripes of punctures, suture densely tesselated with black, third interspace with an elongate raised black spot before middle and three or four black dots farther back, fifth interspace with black spots which are longer than the grey ones. Antenna brown, rufous at the tips of the segments, segment 8 shorter than 7, very little more dilated at apex, a little longer than 9, club loose, 9 nearly twice as long as broad, 10 a little longer than broad, 11 ovate, acuminate, luteous, except base, nearly half as long again as broad. Pronotum depressed above, elevate in centre and at sides; carina subbasal, angle acute, lateral carina extending beyond middle, anterior portion faint, curved. Elytra transversely depressed before middle, subbasal callosity high, stripes of punctures deep.

Length, 5½ mm.

Hab. Marco da Legna, Para, March 1895 (Gounelle).

1 ♂.

Much larger than *verrucatus*, lateral carina of prothorax longer, patch of elytra larger, extending to scutellum, tubercle of third interspace before middle.

75. **Piezocorynus dorsalis** spec. nov.

♀. Black, slightly irrorated with whitish grey above, denser grey beneath. A lateral antemedian dot on pronotum and the scutellum white; a large patch on elytra ochraceous clay, expanded between the fifth stripes of punctures, elongate-elliptical, rounded in front and behind, slightly sinuate laterally in middle, not reaching base, extending to apical declivity, faintly dotted with ochraceous in first and third interspaces; tibiae grey, with two large black patches on upperside, first tarsal segment grey in basal half or two-thirds.

Antenna slender, brown, segments 1 to 8 rufescent at tip, 8 slender, slightly dilated, obtuse at end, club loose, 9 one-fourth longer than broad, triangular, truncate, 10 also triangular and truncate, about as broad as long, 11 pale, ovate, distinctly longer than broad, truncate at tip. Pronotum very slightly uneven, carina nearly basal in middle, angle acute, lateral carina not extending beyond middle, gradually fading away. Scutellum longer than broad. Elytra somewhat flattened from suture to fourth interspace, transversely depressed before middle, subbasal convexity broad, even.

Length, $3\frac{1}{3}$ mm.

Hab. Pery-Pery, Pernambuco, November—December 1892 (Gounelle).

1 ♀.

76. **Piezocorynus homoeus** spec. nov.

♂. In colour almost exactly the same as *P. alternans*, in structure agreeing closely with *plagifer*, differing from *alternans* in the much broader and apically sinuate antennal segment 8, in the shorter and basally broader segment 8, in the rectangular (slightly obtuse) bent of the pronotal carina, the rufescent elytra, on which the black spots of *alternans* are replaced by brown ones and the darker third and fourth tarsal segments. From *plagifer* the present species is distinguished, besides the pattern of the elytra, by the thinner antenna, of which the last segment is luteous, the evenly convex disc of the pronotum, the more straight dorsal carina and shorter lateral one, and the less prominent subbasal callosity of the elytrum.

Hab. Jatahy, Goyaz.

1 ♂.

The second carina of the pronotum is not parallel with the first (anterior) one, but is fused with it close to the lateral angle, forming with the short lateral basal longitudinal carina and the anterior carina a small triangle.

77. **Piezocorynus alternans** spec. nov.

♂♀. In colour similar to *gracilicornis*. Some spots between the eyes and some on pronotum clayish ochraceous; alternate interspaces of elytra tesselated with black and clayish ochraceous; pronotum indistinctly marmorated with black: antenna (except segments 9 and 10, which are brown), apex of femora, base and apex of tibiae, base of first and second tarsal segments and the whole third and fourth rufous.

Antenna of ♂ somewhat longer than the body, segment 8 slightly dilated towards apex, four times as long as apically broad, angles not produced: in both sexes 9 one-fourth longer than broad, 11 almost as broad as long. Prothorax strongly conical, dorsal carina slightly convex laterally, not quite basal mesially, angle acute, lateral carina gradually fading away, extending a little beyond middle. Scutellum grey, triangular, longer than broad. Elytra longer than in *gracilicornis*, depressed at basal margin, subbasal callosity feebly elevate, alternate interspaces feebly convex. Second and third tarsal segments broad.

Hab. Espirito Santo, *type*; Jatahy, Goyaz.

A series.

78. **Piezocorynus basalis** spec. nov.

♂. Black-brown, sparsely pubescent grey above, more densely below; some dots on upperside grey. Antenna rufous, segments 1, 2, 9 and 10 brownish, apical edge of pronotum and base of elytra as far as subbasal callosity pale rufous, an antemedian lateral dot on elytrum also rufous; apex of femora, a broad subbasal and a narrow apical ring on tibiae, and the first and last tarsal segments pale rufous.

Antenna (♂) hardly reaching to basal fourth of elytrum, segment 3 longer than 4, 8 widened, short, little longer than broad, 9 triangular, truncate, one-fourth longer than broad, 10 nearly twice as broad as long, triangular, being strongly narrowed basad, 11 luteous, subcircular, being a little longer than broad. Prothorax conical, with slightly rounded sides, evenly convex above; carina subbasal, straight, with rounded angles, laterally not reaching middle. Scutellum grey, like a pronotal spot in front of it. Elytra evenly convex, interspaces not elevate, third and ninth with some grey spots. Pygidium rounded, rufescent.

Length, 4 mm.

Hab. Cochabamba, Bolivia (Germain).

1 ♂.

Key to the South and Central American species of *Piezocorynus*:

a. Carina antebasal, biconvex, interspaces of elytrum flat	*P. tristis* (1855) Jekel.
Like *tristis*, pronotum with two abbreviated velvety bands	*P. brevis* spec. nov.
Carina subbasal; or, if far from base, alternate interspaces of elytrum elevate	*b*.
b. Club of antenna loose, segment 10 triangular	*c*.
Club of antenna compact, segment 10 transverse	*f*.
c. Alternate interspaces of elytra convex, tesselated with ochraceous and black. Dorsal carina strongly convex . .	*P. gracilicornis* (1855) Jekel.
Base of elytra of prothorax pale rufous; dorsal carina of prothorax straight .	*P. basalis* spec. nov.
Elytra with ochraceous clay sutural patch	*d*.

d. Suture heavily tesselated with black .	*e*.
Suture indistinctly tesselated . .	*P. dorsalis* spec. nov.
e. Patch of elytra extending to scutellum at suture	*P. suturalis* spec. nov.
Patch of elytra stopping short at hinder side of subbasal callosities .	*P. verrucatus* spec. nov.
f. Alternate interspaces of elytrum tesselated, no sutural patch, angle of carina less than 90° . . .	*P. alternans* spec. nov.
Like *alternans*, angle of carina 90 .	*P. homoeus* spec. nov.
Elytra with sutural patch . . .	*g*.
g. Patch of elytra extending from near base to declivous apex . . .	*h*.
Patch of elytra restricted to basal half	*P. dispar* (1833) Gylh.
h. Patch of elytra of nearly the same width, segments 10 and 11 of antenna luteous	*P. compar* spec. nov.
Posterior two-thirds of patch of elytra much narrower than anterior third, the fourth interspace being clayish only before middle; antennal segment 11 luteous at tip . . .	*P. plagifer* spec. nov.

Anthrenosoma gen. nov.

♂ ♀. Rostrum very short. Antennal cavity occupying the whole side of rostrum, covered by a sharply carinate edge which extends to eye and is continuous with apical edge of rostrum. Eye contiguous to antennal cavity, coarsely granulose, sinuate, oblique, enlarged, the frontal lobe narrower than the lower lobe and produced forward, projecting above the antennal cavity. Frons and rostrum in a plane. Underlip sinuate, the lobes short, obtuse. False mentum short and very broad, broadly sinuate, lobes obtuse. Antenna reaching to middle of prothorax or a little beyond, rather hairy, segments 1 and 2 incrassate, 3 about as long as 4, 6 to 8 gradually incrassate, club compact, broad, 9 as long as broad, somewhat asymmetrical, as is also 10, this broader than long, narrowed towards base, 11 at least as long as 9 and broader, more or less ovate. Prothorax as broad as elytra, carina closely applied to elytra, following the curve of the basal edge of the latter, angulate in middle, being evenly arched (convex) from middle to sides, continuous with the cariniform lateral edge of the prothorax, which bears a very fine carina, this carina interrupted in middle (at the transverse suture of the prosternum) and the hinder end of the anterior portion more or less obviously flexed discad; basal angle of prothorax acute, projecting laterad, or rectangular, apical corner also acute or rectangular, the apical margin being emarginate behind the eyes. Elytra convex, declivous from near base to apex, gradually narrowed from shoulder to apical fifth, then strongly rounded. Foretarsus not more than one-third shorter than foretibia. Prosternum very short, coxae widely separate. Mesosternal process also broad.

Type: *A. tibialis* spec. nov.

79. **Anthrenosoma tibialis** spec. nov.

♂ ♀. Rufescent brown : upperside irrorated with a clayish pubescence ; elytra more or less tesselated ; the pubescence condensed laterally at apex of pronotum ; a thin clayish mesial line on the latter ; underside and head evenly pubescent-clayish. Antennal segments 1 and 2 rufous, 11 luteous ; tibiae rufous, except base and apex. Frons in ♂ one-third the width of the rostrum, in ♀ a little wider. Pronotum very densely reticulate, anterior angle dentiform. Elytra densely granulate, punctate-striate. Pygidium slightly acuminate.

Length, 2⅜ mm.

Hab. Jatahy, Goyaz.

A series.

80. **Anthrenosoma bohlsi** spec. nov.

♀. Rufescent ; antenna and legs almost entirely luteous ; elytra with a broad discal streak from near shoulder to beyond middle, apex and sutural interspace rufous, clothed with broad clayish hairs ; pronotum irrorated with similar hairs. Anterior angle of prothorax less produced than in *tibialis*, hinder angle also less prominent, disc more widely reticulated. Elytra more evenly convex than in *tibialis*, punctures of stripes larger, interspaces smooth, not granulose.

Hab. Paraguay (Dr. Bohls).

1 ♀.

81. **Anthrenosoma gounellei** spec. nov.

♂. Slenderer than *tibialis* and *bohlsi*. Rufous ; head, disc of pronotum, shoulder, apex and a median patch on elytrum more or less brown, the rufous and brown portions not sharply defined ; pubescence clayish. Antenna longer than in the other species, rufous like tibiae and tarsi, almost gradually dilated from segment 7 to 11, 8 three times as long as broad, 9 much narrower and not longer than 10, this longer than broad. Eye large, the frons being less than one-third the width of the rostrum. Lobes of false mentum rounded. Prothorax and elytra similar in sculpture to those of *tibialis*. Anterior angle of the former acute, dentiform, hinder angle also acute, projecting laterad. Elytra proportionately longer than in the other species, almost cylindrical.

Length, 2½ mm.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

1 ♂.

Scymnopis gen. nov.

Differs from *Anthrenosoma* in the lateral carina of the prothorax not being extended to apex, the prothorax being gradually narrowed from before middle to apex, the apical angle not projecting.

Type : *S. suturalis* spec. nov.

82. **Scymnopis suturalis** spec. nov.

♀. Brown ; rostrum, head, club of antenna, prothorax, and suture of elytra brown-black. Upperside not tomentose, punctured, each puncture bearing a stiff hair. Rostrum four times as broad as long. Frons one-third the width of the

rostrum. Antenna rufous. Pronotum rufescent at base, punctures deep, large, smaller than the interspaces, evenly distributed, basal angle acute, projecting laterad. Elytra evenly convex, regularly seriate-punctate, the punctures large, the stripes of punctures not distinctly impressed; black sutural stripe widest at base, the black colour occupying also apical margin, extending forward at side to near middle, not sharply limited. Legs rufous, basal two-thirds of femora black-brown.

Length, $2\frac{1}{3}$ mm.

Hab. Cochabamba, Bolivia (Germain).

1 ♀.

Paranthribus gen. nov.

♀. Similar to *Anthrenosoma* and *Piezocorynus*. Rostrum and eye similar to those of *Anthrenosoma*. Antenna reaching base of elytra, with single long hairs, segments 1 and 2 incrassate, 3 to 7 thin, 3 = 4, longer than 2, 8 nearly three times as long as broad, a little broader than 7, club loose, 9 = 10, shorter than 11, 9 asymmetrical, widest just beyond middle, 10 with rounded sides, 11 elliptical. Prothorax more than twice as broad as long; carina basal, less angulate than in *Anthrenosoma*, the basal margin of the elytrum being less curved, flexed forward at sides beyond middle, this lateral carina as distinct as the dorsal one, side of prothorax emarginate before base, then rounded, apical edge not in the least projecting; lateral angle of carina 90°, but tip rounded. Prosternum longer than in *Anthrenosoma*, forecoxae nearly contiguous.

Type: *P. rufescens* spec. nov.

83. Paranthribus rufescens spec. nov.

♀. Rufescent, head and pronotum more brown, pubescence greyish clay, pronotum almost regularly dotted; elytra irregularly tesselated, the rufescent brown spots long in third interspace. Antenna rufous at base, segments 10 and 11 luteous. Legs rufous, basal two-thirds of femora, apex of tibiae and second tarsal segment more or less brown. Rostrum four times as broad as long, emarginate in middle of apical edge. Frons more than half the width of the rostrum. Pronotum convex; slightly depressed before carina, rugulose, apical margin rufescent. Elytra subcylindrical, as wide as prothorax at base, a little rounded-widened before middle, then gradually narrowed; apex truncate-emarginate, with the lateral angle rounded off; deeply punctate-striate, interspaces finely granulose, convex; the third a little more elevate than the others. Underside somewhat irrorated with brown pubescence, as are the legs.

Length, 3 mm.

Hab. Salobro, Bahia, June—July 1885 (Gounelle).

1 ♀.

Exechontis gen. nov.

♂♀. Rostrum truncate, flat, vertical, broader than long or somewhat longer than broad; antennal cavity covered, its upper edge being cariniform; this carina not extending to eye. Frons and occiput convex. Eye reduced in size, coarsely granulate, rather strongly elevate, entire, elliptical, being longer than broad, oblique. Antenna reaching base of elytrum in ♂, somewhat shorter in ♀, segments

1 and 2 incrassate, 3 shorter than 2 and about as long as 4, 8 somewhat incrassate, half or two-thirds the length of 3, club broad, 9 and 10 triangular, emarginate apically, 9 as broad as long, 10 nearly twice as broad as long, 11 rounded, broader near base than near apex. Prothorax produced forward above; carina at basal sixth, parallel to base of elytra, very feebly concave, slightly flexed forward at side, not longitudinal. Base of elytra truncate-emarginate. Scutellum round. First tarsal segment about one-fourth the length of the tibia.

Type: *E. sparsa* spec. nov.

Allied to *Gibber* (1895) Jord. from the Oriental Region.

84. **Exechontis sparsa** spec. nov.

♂ ♀. Black-brown, somewhat rufescent; upperside pubescent copper-brown, sparsely irrorated and dotted with white; underside grey; tibiae, apex of femora and base of antenna rufous, end-segment of antenna lutescent. Rostrum broader than long, constricted behind antennal cavities, the upper edge of the latter being straight and rather wide. Prothorax about half as broad again as long, more strongly convex in front than behind, slightly narrowed from carina forward; three white basal dots, the mesial one the largest, produced forward as a line, some small grey-white discal spots, sides shaded with white scale-like hairs. Scutellum white. Elytra oblong, nearly straight at sides, strongly rounded behind, convex, depressed at basal edge, rounded-declivous from before middle to apex, very densely granulated, stripes of punctures feebly impressed, not very conspicuous; shoulder, side and apex irrorated with grey-white, some antemedian and postmedian discal spots also grey-white, the markings very ill-defined. Pygidium short, subtruncate.

Length, $2\frac{1}{3}$ mm.

Hab. Jatahy, Goyaz, *type*; Pery-Pery, Pernambuco, November—December 1892 (Gounelle).

4 ♂♂, 1 ♀.

Parexillis gen. nov.

♂ ♀. Close to *Exillis* from the Oriental Region. Rostrum and frons neither sulcate nor carinate. Antenna thicker, third segment at apex as thick as second. Carina of prothorax basal.

Type: *P. lineatus* spec. nov.

85. **Parexillis lineatus** spec. nov.

♂ ♀. Rufescent brown, head and underside densely irrorated with white scale-like hairs, meso-metasternum and abdomen more densely white, elytra with white lines extending from base to apex. Head, rostrum and pronotum densely rugate-plicate. First antennal segment and bases of 5 to 9 rufescent; in ♂, segments 3 and 4 obviously thicker than 5 to 8, at least three times as long as 10+11; in ♀, 3 twice as long as 8, 9 as long as 10+11. Prothorax nearly twice as long as broad. Elytra elongate, coarsely punctate-striate, subcylindrical, not depressed above, devoid of subbasal callosity, almost evenly convex from base to apex in side-view; white sutural line broad, the others thin, situated in the alternate interspaces, the other interspaces with traces of lines. Femora and tibiae more or less rufescent.

Length, 3 mm.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

2♂♂, 1 ♀.

86. **Parexillis variegatus** spec. nov.

♂♀. In structure the same as *lineatus*; perhaps only a colour variety. Antenna rufous, except club; legs also more extended rufous than in *lineatus*. Pronotum with two large brown discal patches. Elytrum with three brown patches, one near base, the other in middle, the third on apical declivity, side also more or less marked with brown.

Hab. Tijuca, Rio de Janeiro, January—February 1884 (Gounelle), *type*; Jatahy, Goyaz; S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

A series.

Eugonops gen. nov.

♀. Similar to *Ormiscus*, more elongate. Upper edge of antennal cavity cariniform, straight, extending from apex of rostrum close to eye, the rostrum appearing constricted at base. Eye much longer than broad. Carina of pronotum antebasal, similar to that of *Ormiscus*, very deeply concave, being subbasal in middle, extreme end somewhat flexed forward.

Type: *E. germaini* spec. nov.

87. **Eugonops germaini** spec. nov.

♀. Black, pubescent grey; first segment of antenna, base of second, and claws rufous. Rostrum, head, and pronotum granulate-reticulate. Rostrum flat, nearly three times as broad as long. Frons more than half the width of the rostrum, not obviously convex. Prothorax one-third broader than long, conical from carina forward, not much longer above than at side, apical margin feebly sinuate in middle, angle of carina projecting laterad, base very strongly narrowed, postcarinal portion black, with an oblique grey streak laterally. Scutellum grey, rounded at apex. Elytra strongly depressed transversely before middle as far as seventh interspace, subbasal callosity therefore prominently convex; apex evenly convex; punctate-striate, interspaces flat; grey pubescence sparse, a little denser at apex and in basal half; a patch on subbasal callosity and a subtriangular lateral one behind shoulder velvety black, connected with one another, the dorsal one produced forward in the stripes of punctures, and continuous with a small rectangular sutural spot situated in the depression. Pygidium large, longer than broad, rounded at apex. A subapical ring on femora and middle of tibiae denser pubescent grey.

Length, 5 mm.

Hab. Cochabamba, Bolivia (Germain).

1♀.

88. **Eugonops clericus** spec. nov.

Similar to the preceding. Rostrum twice as broad as long. Frons convex. Eye narrower than in *germaini*. Prothorax longer, carina less convex dorsolaterally; base grey like disc, a black vitta from apex just below eye to base, crossing carina near angle. Elytra nearly as in *germaini*, much less depressed

before middle, apex not denser grey than disc, black basal spot nearly the same, the dorsal one not produced forward in the stripes of punctures, suture with some blackish dots at base, the black sutural spot of *germaini* situated in the depression vestigial in *clericus*. Pygidium shorter. Middle of femora black, apical half and tibiae pale rufous, pubescent white. Black lateral patch of elytrum continued obliquely over the abdomen.

Length, 3 mm.

Hab. Salobro, Bahia, June—July 1885 (Gounelle).

One specimen, apparently a ♀.

Under *Ormiscus* I unite all those small *Anthribidae* which have a sinuate eye, convex frons, and deeply concave antebasal carina. The ♂♂ have an acute spur-like tooth at the apex of the mid- and hindtibiae, or at least of the midtibia. The genera erected by Leconte in 1876—namely, *Toxotropis* and *Gonops*—cannot be separated from *Ormiscus* (= *Hormiscus*); at least, not by the characters which Leconte mentions in the descriptions, these characters not being constant for the supposed genera. Leconte says that the club of the antenna of *Ormiscus* is "apparently solid." The three segments of the club fit indeed so well together in several species of *Ormiscus* (but not in all) that one might easily mistake the club for being solid. But his *Ormiscus* is perhaps not the *Ormiscus* of Waterhouse.

Eusphyrus, also described by Leconte, and put among the "*Basitropini*," quite correctly according to Lacordaire's classification, differs from *Ormiscus* hardly in anything else but the basal position of the carina. This differential character is not even constant, there being some species among our undescribed material of which I can scarcely say with certainty whether they belong to *Eusphyrus* or to *Ormiscus*. The ♂♂ of *Eusphyrus* have, as a rule, no spur-like apical process on the mid- and hindtibiae.

The basal or antebasal position of the anterior carina of the prothorax is of no such great classificatory importance as attributed to it in Lacordaire's system. The division of the "*Anthribides Pleurocères*" into "*Tropidérides*" and "*Basitropides*" is quite artificial.

89. Ormiscus cupreus spec. nov.

♂. Black, legs more or less extended rufous, tarsi and base of antenna brunnescent; underside, pygidium, and legs pubescent grey; upperside copper-colour, very sparsely variegated with white hairs; scutellum white; base of suture for a short distance white, this streak continuous with an antemedian oblong white spot situated between first and third stripe. Antenna short, club less than twice as long as broad. Frons more than half the width of the rostrum. Prothorax nearly as long as broad, rounded anteriorly at side, densely punctate-reticulate, carina not flexed forward at side. Elytra subcylindrical, a little depressed transversely before middle, rounded-declivous from middle to apex, regularly punctate-striate, densely granulate. Pygidium a little longer than broad, rounded at apex. Spur at apex of mid- and hindtibiae small.

Length, 2 mm.

Hab. Jatahy, Goyaz.

2 ♂♂.

90. **Ormiscus ornatus** spec. nov.

♂. Brown; legs rufous, tarsi black distally; underside, legs, and pygidium pubescent white; upperside coppery brown, much variegated with white. Head and rostrum nearly white. Frons half the width of the rostrum. Prothorax rounded laterally before middle, a little broader than long, densely variegated with white, except in centre, longitudinally wrinkled on disc; carina very deeply concave in middle, not flexed forward at side, curving downward at angle. Scutellum white, subquadrate. Elytra somewhat flattened above, rather abruptly declivous behind, punctate-striate, densely granulose, a transverse antemedian band curving forward to scutellum at suture, and numerous spots occupying sides and apical fourth white. Pygidium rounded at apex, about as long as basally broad. Mid- and hindtibiae mucronate.

Length, 2 mm.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

2 ♂♂.

91. **Ormiscus annulifer** spec. nov.

♂. Black; bases of femora and tibiae rufous; underside white, upperside sparsely variegated with white. Frons one-third the width of the rostrum; head, rostrum, and pronotum densely punctate-reticulate, not wrinkled. Prothorax with white scale-like hairs at sides and at carina; the latter a very little flexed forward at side. Scutellum white, transverse. Elytra of nearly the same width from shoulders to apical third, more than half as long again as pronotum, punctate-striate, densely granulose; a white half-ring at base, extending from shoulder to scutellar stripe of punctures and then curving laterad to stripe 5 or 6; a number of small spots at side and apex also white. Pygidium rounded-triangular. Midtibia with a broad apical tooth, hindtibia without tooth.

Length, 2 mm.

Hab. Jatahy, Goyaz.

1 ♂.

92. **Ormiscus ancora** spec. nov.

♀. Rufescent, densely pubescent grey. Two broad vittae on pronotum, ill-defined, a subbasal patch on elytrum, extended to shoulder, and a large transverse postmedian patch produced forward at its anterior inner angle, this process reaching suture before middle and extending along it to basal fourth, coppery brown. Antenna black-brown, first and base of second segment rufous; legs rufous, femora and tarsi more or less brunnescent. Frons more than half the width of the rostrum. Prothorax nearly half as broad again as long, rounded-narrowed at sides, densely plicate on disc, carina subbasal, not curved forward at side. Scutellum white, semicircular. Elytra subcylindrical, punctate-striate.

Length, 2½ mm.

Hab. Salobro, Bahia, June—July 1885 (Gounelle).

1 ♀.

93. **Ormiscus costifer** spec. nov.

♀. Rufescent; upperside and legs rufous; antenna black, first segment rufous; disc of pronotum and apex of tarsi blackish, elytra also somewhat

variegated with black. Rostrum, head, apex and sides of pronotum, pygidium, and underside rather densely pubescent grey; elytra grey, dotted with rufous, the dots not very distinct. Frons three-fourths the width of the rostrum, longitudinally plicate. Prothorax densely plicate, rounded-narrowed at the side, end of carina feebly curved forward. Scutellum white, semicircular. Elytra slightly flattened above, parallel, strongly declivous behind, punctate-striate. Pygidium rounded, with mesial carina, which is highest near apex. False mentum strongly rounded at the sides, buccal fissures approaching one another rather closely.

Length, 3½ mm.

Hab. Venezuela (A. Moequerys).

1 ♀.

94. **Ormiscus sparsilis** spec. nov.

♀. Entirely rufescent brown, white below, dotted with white above. Rostrum broadly emarginate, rugate like frons. The latter two-thirds the width of the rostrum. Eye smaller than in *brevis* and more finely granulate. Prothorax coarsely rugate, slightly rounded in middle of side, with three transverse dorsal rows of small white dots, besides some dots behind and before the carina; this farther from base than in *brevis*, especially laterally, its apex flexed forward, but the longitudinal portion very short. Scutellum white, much broader than long. Elytra as short as in *brevis*, less flattened above, pubescence coarser, rufescent brown, dotted with white, the white dots partly in transverse rows.

Length, 3 mm.

Hab. Jatahy, Goyaz.

1 ♀.

95. **Ormiscus vulgaris** spec. nov.

♂♀. Brown; segment 1 and base of 2 of antenna, tibiae and apex of femora rufous, tarsi rufous proximally. Head and rostrum white in ♂, variegated with brown in ♀, in this sex with a more distinct white mesial spot on frons. Antenna black, club hardly twice as long as broad. Frons a little over one-half (♂) or two-thirds (♀) the width of the rostrum. Prothorax almost straight from carina forwards, feebly rounded, half as broad again as long, grey, variegated with brown, with three transverse interrupted bands, or bands of large spots, ill-defined, more distinct in ♀ than in ♂, apex whitish in ♂; carina not flexed forward at side, terminating abruptly. Scutellum white, broader than long, subtruncate. Elytra flattened above, strongly declivous behind, punctate-striate, third interspace slightly costate, subtuberculate behind base, grey, suture and alternate interspaces dotted with brown and black, the black-brown spots often confluent before apical declivity, forming an irregular sutural patch which varies in size; the small subbasal tubercle black. Pygidium a little broader than long in ♀, about as long as broad in ♂, rounded in both sexes. Hindtibia rather strongly incrassate in ♂. Tooth at apex of midtibia of ♂ rather long, very thin. Sinus of eye very small in ♀.

Length, 2½ to 3½ mm.

Hab. Jatahy, Goyaz.

A long series.

96. **Ormiscus discifer** spec. nov.

♂♀. Brown. Rostrum grey or clay. Frons about one-third the width of rostrum in ♂, wider in ♀. Head more or less clay. Antenna rufous, club black-brown. Prothorax one-third broader than long, rounded-narrowed from the carina forward; carina rather far from base, there being a wide gap between shoulder and tip of carina, somewhat flexed forward in an even curve at side; apical margin clayish and grey, this border gradually widening laterally, extending to lateral carina, continuous with the grey undersurface, rather sharply contrasting with the brown disc; the latter variegated with grey and clay; three clay spots behind carina, more or less merged together. Scutellum semicircular, greyish or clay. Elytra clay, somewhat flattened above, strongly rounded-declivous behind, punctate-striate, suture and alternate interspaces more or less grey, dotted with brown, a black sutural patch extending from near base to apical declivity, occupying interspaces 1, 2, and 3, narrowed proximally; a black spot in front of subbasal callosity. Pygidium longer than broad, hardly narrowed apicad in ♂, truncate, in ♀ more obviously narrowed apicad, rounded at apex, with the mesial line somewhat elevate. Underside and legs pubescent grey or clay; legs rufous, basal half or two-thirds of femora, and apex of tibiae and tarsi brunnescent; midtibia of ♂ with tooth at end.

Length, 4 mm.

Hab. Serra de Communaty, Pernambuco, January—March 1893 (Gounelle), *type*; Paraguay (Dr. Drake).

One pair.

97. **Ormiscus spilotus** spec. nov.

♂. Similar to *O. discifer*; frons a little narrower. Pronotum irrorated all over with white. Suture and alternate interspaces of elytra greyish white, densely spotted with brown, the other interspaces clayish, not spotted, narrower than the spotted ones, the third especially broad in middle; no black patch as in *discifer*. Apex of tibiae more restricted brown.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

1 ♂.

98. **Ormiscus lineatus** spec. nov.

♀. Rufescent brown, upperside sparsely, underside more densely pubescent white, stripes of punctures of elytra and interspaces 2, 4, 6, 8 and 10 white, forming five white lines. Rostrum widest at apex. Prothorax rounded at side in apical half; carina not flexed forward at the side, extending downward. Antenna stout, club more than twice as long as broad.

Length, $2\frac{3}{4}$ mm.

Hab. S. Antonio da Barra, Bahia, November—December 1888 (Gounelle), *type*; Paraguay (Dr. Drake).

2 ♀♀.

99. **Ormiscus costifrons** spec. nov.

♂. Brown, pubescent grey beneath, upperside variegated with black, brown and grey; antenna, except club, and legs rufous. Rostrum widest at apex, clayish grey like head. Frons half the width of the rostrum, multiplicate. Sinus of eye

rather large. Prothorax nearly straight from apex beyond middle, carina antebasal in middle, acutely projecting lateral in dorsal aspect, flexed forward at side, the angle thus formed about 90°, but rounded off (lateral view); disc slightly uneven, mottled with black. Scutellum white, longer than broad. Elytra slightly inflexed at sides behind shoulders, coarsely punctate-striate, subbasal gibbosity tuberculiform, blackish, alternate interspaces with brown-black raised spots, suture subtesselate. Pygidium rounded. Apex of midtibia with small tooth (♂).

Length, 3 mm.

Hab. Amatan.

1 ♂.

100. **Ormiscus brevis** spec. nov.

♂♀. Rufescent; antenna and legs rufous, apex of tarsi brown. Apex of rostrum emarginate in middle, obliquely truncate laterally. Frons half the width of the rostrum. Eye rather strongly elevate. Prothorax variegated with brown and grey, like head and rostrum, disc more brown, sides more grey, a trace of a grey mesial line at apex; nearly twice as broad as long, wider at carina than elytra; carina subbasal, not so much curved forward dorsally towards sides as in *calgaris*, *disciger*, etc. Scutellum greyish white, rounded. Elytra short, half as long again as broad, flattened above, regularly punctate-striate, above grey, dotted with brown, at the sides brown, almost regularly dotted with grey, the brown spots more or less confluent transversely. Pygidium grey, variegated with brown, rounded, as long as broad in ♂, a little shorter in ♀. Underside grey.

Length, $2\frac{1}{2}$ to 3 mm.

Hab. Jatahy, Goyaz.

A series.

101. **Ormiscus angulatus** spec. nov.

♀. Black-brown, partly rufescent; legs and base of antenna rufous, apex of tarsi more or less extended brown; underside, pygidium, head and rostrum pubescent grey-white; pronotum and elytra olivaceous clay, variegated with grey. Frons half the width of the rostrum. Pronotum reticulate, one-third broader than long; carina nearly parallel to base, less curved forward dorsolaterally than usually in this genus, curved forward laterally to near middle of side, the angle rounded off; an interrupted mesial vitta and some lateral spots, partly elongate, grey, ill-defined. Scutellum grey, subquadrate. Elytra subcylindrical, twice the length of the prothorax, finely granulose, regularly punctate-striate, almost regularly tesselated with grey, except a basal and an anteapical space, base of suture grey. Pygidium rounded.

Length, $3\frac{1}{3}$ mm.

Hab. Jatahy, Goyaz.

1 ♀.

102. **Eusphyrus scutellaris** spec. nov.

♂♀. Black; first and base of second antennal segment luteous; tibiae, except apex, and base of femora rufous; underside white; upperside clothed with a coppery pubescence, which is generally very thin and sparse, variegated with white. Head, rostrum, and pronotum densely punctate-reticulate. Frons more than half the width of the rostrum; this gradually narrowed from apex to base.

Prothorax almost gradually narrowed from carina to apex, slightly rounded near apical margin, carina projecting laterad, but less than in *walshi* (1876) Lec.; three rows of rather well-defined white spots on disc, besides some lateral dots. Scutellum white. Elytra oblong, abruptly declivous behind, regularly punctate-striate, densely granulate, a sutural spot behind scutellum, contiguous with it, and a number of dispersed dots white, these dots mostly situated in the interspaces 3, 5, 7 and 9, this last being more densely dotted than all the others, the ante-median dots arranged in a more or less distinct transverse row.

Length, 2½ mm.

Hab. Jatahy, Goyaz.

A series.

103. **Eusphyrus hamatus** spec. nov.

♂. Close to *E. scutellaris*. Head and rostrum densely yellowish white; pronotum shorter, more rounded laterally, discal dots smaller and few in number, sides more extended grey, the grey ventral area being continued upwards apically, carina more convex laterally; pygidium longer; midtibia obliquely truncate, produced into an obtuse tooth.

Hab. Jatahy, Goyaz.

1 ♂.

104. **Eusphyrus lateralis** spec. nov.

♂ ♀. Rufescent brown; legs and antenna rufescent, femora and tarsi and middle segments of antenna brunnescent; underside grey; upperside clayish grey, slightly golden in certain lights, variegated with brown and feebly with white. Head and rostrum evenly pubescent, the latter rufescent. Frons half the width of the rostrum. Antenna reaching base of elytrum: segment 3 longer than 2, club loose, 11 round. Prothorax one-fourth broader than long, conical, almost straight at side, apex and mesial area almost uniformly greyish clay, with few brown spots, sides brown, dotted with greyish clay, the brown area extending from carina to apical fifth, not reaching apical margin; reticulate; angle of carina projecting, but less than in *walshi*. Scutellum white, longer than broad. Elytra feebly flattened at suture, punctate-striate, feebly tesselated with brown, a sub-basal spot in third interspace and a large triangular lateral area brown; this area extending at lateral margin from shoulder to apical third and reaching dorsad to second stripe of punctures, more or less tesselated with clayish spots; a spot on shoulder and some indistinct ones in third interspace white.

Length, 2½ mm.

Hab. Cochabamba, Bolivia (Germain).

One pair.

105. **Eusphyrus nubilus** spec. nov.

♀. Rufescent brown; base of antenna, tibiae, and apex of femora rufous, last two antennal segments luteous; underside greyish white, upperside coppery brown, densely variegated with white, spots ill-defined. Head and pronotum reticulate. Frons about one-third the breadth of the rostrum. Prothorax one-third broader than long, side rounded before middle, carina not much projecting laterad. Scutellum longer than broad. Elytra subcylindrical, not flattened above, densely

and almost regularly tesselated with white and coppery brown, but the colours not sharply contrasting.

Length, 2½ mm.

Hab. Cochabamba, Bolivia (Germain).

1 ♀.

106. **Phaenithon tibialis** spec. nov.

♂. Black, dotted with white; the dots small and separate on head, on sides of elytra before and behind middle and on sterna, more or less confluent on pronotum and on disc of elytra. Rostrum deeply impressed: apical sinus anguliform. Frons with three pairs of carinae. Prothorax conical, depressed before carina, otherwise evenly convex; carina angulate in middle. Scutellum nearly vertical, leaning against a high rounded hump formed by the first interspaces of either elytrum. Elytra shorter than in *carripes*, depressed at suture, third interspace subcostate, but impressed just behind base: the white dots partly forming transverse rows. Pygidium truncate-rotundate. Prosternum impressed mesially in front, vertical behind. Mesosternal process vertical, broad, broadly sulcate, apical fourth horizontal, on a level with metasternum (or projecting rather more ventrad). Anterior tibia strongly dilated, velvety black; midtibia with narrow, hindtibia with broad median creamy white ring; first and second tarsal segments and base of fourth creamy buff.

Length, 7 mm.

Hab. Cerqueira Cesar, Sao Paulo, January 1899 (Gounelle).

1 ♂.

107. **Phaenithon longitarsis** spec. nov.

♂♀. Rufescent brown: legs rufous, tarsal segments 2 to 4 and tip of 1 blackish; pubescence of upperside olivaceous brown; a broad clayish grey mesial vitta from apex of rostrum to base of pronotum, slightly widening behind, occupying the whole frons; some small lateral spots on pronotum the same colour: elytra with a broad sutural stripe, deeply constricted near base, in middle, and again before apex, and a number of dots of varying sizes situated discally and laterally, clayish grey, suture dotted with brown; pygidium with three clayish grey vittae, strongly narrowing apicad, more or less abbreviated, especially the lateral ones, appearing as elongate-triangular spots: underside sparsely pubescent grey, sides densely pubescent clayish, abdomen with a row of brown lateral dots situated at the bases of the segments.

Sinus of rostrum anguliform; two cariniform ridges continuous with the orbicular edges. Frons with prominent mesial carina. Antenna black, reaching middle of prothorax, segment 3 nearly twice the length of 2, 11 obliquely truncate, acuminate, somewhat curved, elongate, more than three times (♂) or than twice (♀) as long as broad. Prothorax mesially depressed, especially at apex and carina, very minutely granulated, the granules transversely enlarged to very short ridges on disc; apical margin shallowly sinuate. Elytra depressed at suture, distinctly punctate-striate, obviously narrowed from near base to near apex. Pygidium rounded at apex in both sexes. Antecoxal portion of prosternum much longer than the coxa is broad. Mesosternal process vertical. Metasternum convex in both sexes. Abdomen not impressed in ♂, except last segment, which is rounded at apex. Legs long, tarsi especially prolonged, first

foretarsal segment half (♀) or more than half (♂) the length of the tibiae, foretarsus of ♂ about twice the length of the prothorax.

Length, 7½ to 10 mm.

Hab. Espirito Santo.

1 ♂, 2 ♀♀.

108. **Phaenithon longicornis** spec. nov.

♂. Rufescent brown, femora and tibiae rufous; pubescence of upperside olivaceous coppery brown; rostrum sparsely grey; a line dorsally on each side of head bordering eye, continued obliquely across pronotum to base, slightly widening behind, and a triangular mesial spot from base to near middle of pronotum clayish grey; scutellum the same colour; on elytrum a line beginning with a transverse spot situated before middle of the lateral margin, running along the seventh interspace to near apical declivity, turning towards suture, which it does not quite reach, and extending forward, circumventing a brown sutural dot before middle, then being widened and continued to base, and turning along basal margin to shoulder, here produced a little backwards; the area encircled by this clayish grey line sparsely shaded with grey; a small transverse subapical spot clayish grey, base of suture not brown; pygidium with a grey mesial line and a grey border; underside with clayish grey lateral stripe from head to fourth abdominal segment, this stripe gradually fading away towards middle, which is very thinly pubescent grey like legs.

Rostrum very densely rugate-punctate, without carinae, apical sinus rounded. Frons with sulcate mesial carina and some cariniform wrinkles. Antenna long, reaching base of prothorax, segment 3 nearly three times as long as 2, 8 triangular, twice as long as apically broad, club elongate, 9 more than twice as long as broad, 10 half as long again as broad, 11 a little longer than 10, truncate. Prothorax half as broad again as long, conical, not depressed above, very densely punctate-reticulate. Elytra slightly depressed above, finely punctate-striate, gradually narrowed from before middle to near apex. Antecoxal portion of prosternum a little shorter than the coxa is broad. Mesosternal process convex, apex curved backwards, rounded. Abdomen irregularly impressed mesially, impression especially deep on segments 4 and 5, 4 with an ochraceous tuft on each side of impression, 5 subtruncate. Foretarsus slightly dilated, first segment one-third the length of the tibia, first segment of hindtarsus over half the length of the tibia.

Length, 8 mm.

Hab. Venezuela (Mocquerys).

1 ♂.

109. **Phaenithon laevipennis** spec. nov.

♂♀. In colour practically the same as *P. figuratus*, the vittae of the pronotum rather narrower, the pygidium more extended brown, and the brown lateral spots on metasternum and first abdominal segment larger. Pronotum mesially less depressed before carina. Elytra rather narrower, without any stripes of large punctures, the sutural stripe alone being present, but impunctate. Pygidium of ♀ a little more pointed. Mesosternal process as in *figuratus*, vertical, concave before being curved back, almost appearing bituberculate. Metasternum of ♂ flattened and abdomen depressed as in *figuratus*; last segment different,

being roundedly impressed in *figuratus* with an ochraceous tuft in front of the rather deep groove, and shallowly impressed in *lacripennis* with a yellowish mesial stripe.

Hab. Surinam, *type*; Jatahy, Goyaz.

One pair.

110. **Phaenithon nigritarsis** spec. nov.

♂ ♀. Black or brown, legs somewhat rufescent; pygidium, underside of body, and legs densely pubescent grey; tarsi and tip of tibiae black; upperside brown, marked with grey—namely, a broad mesial vitta on rostrum and head, occupying the whole frons, abruptly narrowed on occiput, which bears a brown patch on each side; on protonum a thin interrupted or abbreviated mesial stripe, dilated at the carina, a broad lateral area continuous with the grey underside, bi- or trisinuate, including a round brown spot: scutellum; on elytra an anchor-shaped basal mark common to both, extending along basal margin to side-margin and at suture a little beyond basal fourth, this mark deeply rounded-excised laterally; from this brown sinus two processes project basad, the grey basal band being here bisinuate (it is sinuate again at the shoulder); behind the large sinus the grey mark widens out laterad, on the suture it is sinuate; an oblique series of three spots from before middle of lateral margin obliquely backwards to disc, the two lateral spots confluent in one of our specimens, the dorsal spot situated in the fifth interspace more or less elongate; at apex of each elytrum a large half-moon, touching suture, except at apical angle, anteriorly obliquely truncate at suture, deeply sinuate in middle and less deeply laterally.

Rostrum shallowly emarginate. Frons with a very thin mesial carina which is hardly visible under the dense pubescence. Antenna short, segments 7 and 8 broader than long, club short in both sexes, 10 four times as long as broad, 11 rounded, hardly as long as broad in ♂, feebly acuminate, broader than long in ♀. Prothorax more than half as broad again as long, convex, not impressed mesially, finely rugulose, carina closer to base than in *semigriseus*, almost evenly concave above, obliquely flexed forward at side, the lateral oblique portion not longer than the scutellum. Elytra similar in shape to those of *semigriseus*, punctate-striate, finely granulose. Pygidium rounded-triangular, longer than broad, mesially feebly convex in ♂. Antecoxal part of prosternum about one-fourth the width of the coxa. Mesosternal process vertical, flat, rounded-truncate, apex feebly curved backwards. Abdomen of ♂ somewhat flattened, anal segment emarginate in both sexes.

Length, 6 mm.

Hab. Costa Rica (Biolley), *type*: Sierra de Durango, Mexico.

2 ♂♂, 1 ♀.

Differs from *semigriseus* in the broad mesial vitta of the head, the shorter club of the antenna, the entirely black tarsi, etc.

111. **Phaenithon similis** spec. nov.

♂ ♀. Close to *nigritarsis* in colour and structure, more elongate. Vitta of rostrum and head touching eyes on frons, then gradually narrowed posteriorly, yellowish grey. Yellowish grey sides of pronotum including a large brown spot which is mostly connected with the brown disc; lateral carina continued to

middle, gradually fading away. Elytra slightly flattened at suture, grey sutural area longer, extending to middle, narrower, with a narrow spot attached to it behind rounded subbasal sinus, or this spot free, lateral median spot larger than in *nigritarsis*, yellowish like the apical spot. Pygidium slightly acuminate in ♀. Mesosternal process more rounded and curved backwards at apex, angulate at sides. Anal sternite of ♂ not emarginate. First tarsal segments shorter, the first of hindtarsus less than half the length of the tibia, first foretarsal one shorter than fourth.

Length, 5 to 6½ mm.

Hab. Jatahy, Goyaz.

A series.

112. **Phaenithon pictus** spec. nov.

♂ ♀. Brown or black; tibiae and apex of femora rufous, tarsi black; underside pubescent greyish clay, with a brown dot on prosternum laterally before middle, pubescence denser at the sides; upperside rufescent brown, with the following greyish clay markings: a broad mesial vitta occupying nearly the whole upperside of rostrum and head (except a postocular spot), with an indication of being mesially divided on rostrum and frons; a broad mesial vitta on pronotum, somewhat narrowing frontad, separated from the clayish side by a brown vitta of about the same width, this brown vitta including a clayish line or spot at apex and another at base; scutellum also clay; on elytra a broad sutural area extending to apical fourth, dilated to lateral margin at base; bisinuate laterally, with a projection from the first sinus basad, dilated before end, or (instead) a median spot close to it, a lateral marginal spot pointing obliquely towards the dilated part of the sutural area respectively towards the median spot, a lateral marginal elongate spot at apical third, and a round apical spot; pygidium margined with greyish clay, a mesial vitta of the same colour.

Rostrum shallowly sinuate. Frons with very fine mesial carina. Antenna short. Pronotum finely rugulose, one-fourth broader than long, lateral carina reaching to middle. Elytra flattened at suture, finely punctate-seriate. Pygidium of ♀ triangular, with rounded apex, of ♂ subcarinate mesially, less narrowed apicad. Prosternum before coxa two-thirds the width of coxa. Mesosternal process rounded and curved backwards at apex, somewhat concave, angulate at side. Abdomen of ♂ depressed mesially, anal segment truncate in ♂, elongate-triangular with rounded apex in ♀. First foretarsal segment one-third the length of the foretibia.

Length, 6½ mm.

Hab. Jatahy, Goyaz, ♀, *type*; "Brazil," ♂.

113. **Phaenithon ruficollis** spec. nov.

♂ ♀. Black, upperside of head and prothorax rufous; two vittae on rostrum and frons, a mesial line on occiput, an obliquely transverse line on occiput from eye to middle of apical margin of pronotum, a stripe below eye, on pronotum a mesial vitta, a basal lateral patch extending downwards, an oblique short apical lateral band extending downwards along apical edge, two dorsal lateral transverse lines, one in front of carina, the other behind it, a vestigial apical marginal line, scutellum and lateral transverse spots of abdomen creamy white; stripes of elytra streaked with white; a transverse halfmoon-shaped spot before apex of elytrum,

sides and apex of pygidium, and epimerum of metathorax white; last abdominal segment above and below rufous or rufescent; pubescence of rest of body and legs brown, shaded with grey, especially on femora and abdomen.

Very short, broad, *Cryptocephalus*-like. Frons with fine mesial sulcus. Pronotum strongly convex before middle, with broad mesial sulcus, depressed before carina, the latter concave in middle. Elytra strongly convex, very slightly depressed at suture, first interspace slightly raised behind scutellum, third more strongly elevate at base. Pygidium rounded at apex. Antecoxal part of prosternum very short. Mesosternal process projecting forward. Last abdominal segment sinnate. Anterior claw-segment shorter than segments 1 and 2 together.

Length, 4 to 7 mm.; breadth, $2\frac{3}{4}$ to $4\frac{1}{3}$ mm.

Hab. Jatahy, Goyaz.

A series.

In the species of the genus *Anthribus* (1792) Fabr., type *albinus*, = *Macrocephalus* (1789) Oliv. (*non* Swederus, 1787), the mesial carina of the rostrum and head is interrupted by a deep punctiform groove. Most of the American species have legs very hairy.

114. **Anthribus farinatus** spec. nov.

♂ ♀. Head and rostrum white. Antenna rufous, with the tips of the segments more or less brown and the club also mostly brown, reaching in some ♂♂ the middle, in other ♂♂ and in ♀♀ the base of the elytra, hairy beneath in ♂. Carina of rostrum and of head rather high; occiput with darker mesial triangular space. Pronotum clayish ochraceous; a white semicircular line halfway between middle tuft and apical margin, ending at the outer side of the lateral discal tuft, this line often interrupted: the space between it and apical margin more or less white; three tufts, ochraceous, central hairs black. Elytra uneven, wrinkled and pustulated, greyish white, shaded with brown, basal margin clayish ochraceous, most of the tufts, especially all the subbasal ones, ochraceous, hinder side of posterior tufts white, sutural interspace not very distinctly dotted with dark brown, a brown sutural spot at apical third distinct; three black dots at apex, one at tip of each elytrum and an elongate one a little more proximal on suture; third interspace with a subbasal tuft which is the largest of all, another before middle and a third before the gradual apical declivity, fifth and seventh interspaces with smaller tufts, and the ninth also with indications of tufts or pustules, such pustules on all the other alternate (3, 5, 7, 9) interstices; middle tufts of interspaces 3, 5 and 7 in an oblique row. Legs long-hairy, tibiae indistinctly spotted with brown.

Length, $4\frac{1}{2}$ to $7\frac{1}{2}$ mm.

Hab. Cerqueira Cesar, Sao Paulo, January 1899 (Gounelle), *type*; Rio de Janeiro; Espirito Santo; Pernambuco; Cochabamba, Bolivia (Germain).

A series.

115. **Anthribus gounellei** spec. nov.

♂ ♀. Very close to *farinatus*. Carina of rostrum and head not so distinct. Dark space of occiput divided by a white line. Apex of pronotum more or less extended white, with three white apical lines within this area, one in middle and one on each side, the lateral ones situated not quite so far towards the sides as the lateral discal tuft; in front of the lateral tuft, a little more towards middle,

a white dot ; tufts ochraceous, more or less black behind, sometimes all ochraceous ; the middle tuft followed by an indistinct white mesial line ; behind the lateral tuft there is a black spot, mostly halfmoon-shaped, followed by another smaller one. White pubescence of elytra denser than in *farinatus* ; basal margin and a large postmedian area common to both elytra the same dark colour as the base of the prothorax ; this area expanded between the seventh interspaces, strongly rounded in front, reaching anteriorly a little beyond the second tuft of the third interspace and posteriorly stopping at the third tuft ; the tufts within this area ochraceous ; a spot each in the fifth and seventh interspaces at the anterior edge of the dark patch black ; pustules between first and third tuft of third interspace white ; brown tesselation of suture more distinct than in *farinatus* ; the three black apical spots conspicuous.

Hab. Pery-Pery, Pernambuco, November—December 1892 (Gounelle), *type* ; Matu Sinhos, Minas Geraës, March—April 1883 (Gounelle) ; S. Antonio da Barra, Bahia, November—December 1888 (Gounelle) ; Jatahy, Goyaz, December 1897 to January 1898 ; Sao Paulo.

A series.

The insect reminds one by its style of coloration of *Ozotomerus waterhousei*.

116. **Anthribus laevipennis** spec. nov.

♂ ♀. Pubescence of upperside ochraceous clay-colour, mixed with white, more white beneath. Head and rostrum white, the latter clayish at apex and sides. Prothorax rather suddenly narrowed anteriorly ; tufts black, the mesial one broad and separated into two tufts ; the area between these tufts and apical margin white, variegated with a brownish patch before the tufts, the purer white parts band-like, raised, the white pubescence extending backwards between the tufts, but not reaching the carina. Elytra practically without tufts, gradually sloping from near base to apex, sutural area whitish, this area gradually widening behind, reaching outer margin, not extending to base, ill-defined ; alternate interspaces slightly pustulated with white within whitish area, and faintly dotted with brown ; a conspicuous, sharply defined, round, black patch on suture before apex. Legs not long-hairy.

Length, 2½ to 4½ mm.

Hab. Jatahy, Goyaz, *type* ; Tijuca, December 1884 (Gounelle) ; S. Antonio da Barra, Bahia, November—December 1888 (Gounelle).

A long series.

117. **Anthribus picticollis** spec. nov.

♂ ♀. Head and rostrum white, much shaded with clayish ochraceous ; mesial groove rather large. Antenna and legs rufous. Prothorax laterally sinuate before base, tawny, mottled with white, dotted with black at base ; a thin white apical mesial line ; a clayish band extending from the apex obliquely to the sides, stopping laterally of the lateral discal tuft, the bands of the two sides forming generally a half-ring ; the band is somewhat raised at end, where it is paler, and is bordered externally with brown or black ; within the area encircled by the half-ring there is on each side an oblique black stripe bordered internally with white ; lateral tufts small, the mesial one large, tawny, black in centre. Elytra the same colour as pronotum ; a sutural area extending from base beyond middle, limited by the third

interspaces more or less white, generally purer white between second and third tufts; third interspace somewhat elevate, with three tufts, subbasal, antemedian and postmedian, the first rather large; fifth interspace with distinct tuft before apex; interspaces 5, 7 and 9 and apex of 3 pustulated, the pustules more or less black, the central sutural white area without such pustules. Brown spots of tibiae distinct, hairs not long.

Length, $2\frac{2}{3}$ to $5\frac{1}{3}$ mm.

Hab. Jatahy, Goyaz, Brazil.

A series.

118. **Anthribus frenatus** spec. nov.

♂ ♀. Rostrum rather strongly dilated at apex, ochraceous mummy-brown. Head the same colour, a line along eye and two lines on occiput white, consisting of suberect pubescence. Antenna dark rufous, club brown, compact, segments 7 and 8 pubescent white. Prothorax broad, same colour as head; two lines of erect pubescence, corresponding to the lines of the occiput, ending at the sides of the mesial tubercle, more or less white; a large subapical irregular lateral patch black, limited behind by the lateral discal tuft and a transverse crest of pubescence; a smaller black patch in the hinder angle of the pronotum; three discal tufts of about equal size, inclining forward, lateral ones black in front. Elytra short, declivous apex impressed; an indistinct grey band crossing suture behind base, curving backwards at sides and here gradually disappearing; a clayish grey, anteriorly rounded patch on apical declivity, reaching laterally to a large luteous tuft, the patch separated from the narrow apical area, which is covered with a long grey pubescence mottled with black, by an indistinct transverse fuscous line which is accentuated on the suture by a black spot; rows of punctures distinct, but not strongly impressed; a black subbasal dot near suture, two more situated one each in fifth and seventh interspaces behind middle; pubescence of alternate interspaces slightly raised, forming small tufts and pustules; third interspace with three small tufts, one near base, the second before and the third behind middle, all tawny in front; lateral margin with long hairs like those covering tibiae and tarsi.

Length, 4 to 5 mm.

Hab. Jatahy, Goyaz, Brazil, *type*; Pery-Pery, Pernambuco, November—December 1892 (Gounelle); Cochabamba, Bolivia (Germain).

A series.

119. **Anthribus analis** spec. nov.

♂ ♀. Head and rostrum clayish ochraceous, the pubescence with traces of white. Antenna dark brown, rufous at the joints, club black; in ♂ reaching to basal third of elytrum, hairy beneath, especially on club. Pronotum of the same colour as the head, with traces of white above at the apex and laterally at the base, a broadly lyre-shaped mark before the base also white, but very indistinct; three tufts, lateral ones very small, central hairs of tufts black. Elytra fuscous: a dorsal clayish ochraceous area on each, beginning at the subbasal tuft, stopping proximally of the apical declivity, and extending in a transverse direction from stripe 1 to 5 and posteriorly rather farther towards outer margin; the area not sharply limited laterally and sutnrally; apical declivity grey shaded with ochraceous, the grey area separated from the clayish ochraceous

One by an almost straight transverse fuscous band. Tibiae and tarsi long-hairy, clayish grey, indistinctly spotted with brown (where the pubescence is thinner).

Length, 6 to 7 mm.

Hab. Valley of the Rio Pardo, Sao Paulo, December 1898 (Gounelle), *type*: Amazons.

One pair.

120. **Anthribus lineiger** spec. nov.

Head and rostrum white, ochraceous laterally, head with ochraceous mesial vitta extending to groove. Shaft of antenna rufous brown, clothed with white pubescence: club compact, brown. Prothorax narrowed from middle to apex, sides and depressed base variegated with dark ochraceous and black, apical dorsal half ochraceous, palest between the tufts, the area divided by a thin white mesial line, which reappears as a more conspicuous line on the hinder side of the mesial tuft: between lateral tuft and lateral carina there are some white spots. Elytra in colour like base of pronotum, tufts not very prominent, interspaces 3, 5 and 7 with a white line in middle, that of the third interspace beginning at the submedian tuft, the others standing a little farther back and beginning at black dots; some white dots near base, preceded by black ones. Legs without long rough hairs; tibiae with brown spots, foretibia nearly black, with pale rings.

Length, 3 to 4 mm.

Hab. Pery-Pery, Pernambuco, November—December 1892 (Gounelle).

Three specimens.

121. **Anthribus collaris** spec. nov.

♂ ♀. Similar to *lineiger*. Pubescence of upperside white and ochraceous; no distinct pattern on head and prothorax. The latter with the transversely depressed basal half more white than the apical half; the three tufts inclining forward, of nearly the same size, the mesial one the smallest, all somewhat transverse; some white and black spots laterally of the tufts, often very indistinct. Elytra dotted with brown at the suture and in the alternate interspaces; the tufts brown in front and white behind, subbasal one of third interspace smaller than the subapical one occupying the fifth, sixth and seventh interspaces, an oblique row of three elongate tufts in interspaces 3, 5 and 7, the first before the second in, and the third behind the middle, the last standing on a level with the third tuft of the third interspace: the brown postmedian sutural spots sometimes merged together to one patch. Legs not rough-hairy.

Length, 3 to 4½ mm.

Hab. Jatahy, Goyaz, Brazil.

A series.

122. **Anthribus inaequalis** spec. nov.

♂ ♀. Rostrum uneven, strongly dilated at apex, ochraceous, slightly mottled with white. Head with brownish mesial area encircled by a white raised line and divided by an ochraceous mesial one. Prothorax brown, variegated with ochraceous, a broad mesial vitta from apical edge to row of tufts ochraceous bordered irregularly with white; three conical, rather high tufts, each centrally black, mesial one a little higher than the others. Elytra gradually declivous from near base to apex, slightly flattened apically at suture; a nebulous

grey area or band behind base, evenly curved, gradually fading away, very indistinctly marked; rest of elytra grey variegated with ochraceous; third interspace with three prominent ochraceous tufts, interspaces 5, 7 and 9 with pustules, but no tufts; a round black sutural patch before apex encircled with ochraceous; lateral margin and legs long-hairy.

Length, 3 to 4½ mm.

Hab. San Antonio da Barra, Bahia, November—December 1888 (Gounelle), *type*; Jatahy, Goyaz.

A series.

123. **Anthribus plagiatus** spec. nov.

♂. Similar to *cornutus* (1831) Say. Prothorax without the two black apical tufts of that species, these tufts being replaced by two raised ochraceous bands which converge anteriorly; mesial discal tuft higher than in *cornutus*; the oblique white line in front of the lateral tufts very conspicuous; dorsal carina mesially more concave and the lateral angle more rounded than in *cornutus*. Elytra with a subbasal tuft each in the sutural and the third interspace; white subbasal patch larger, rounded in front, narrowed laterally, somewhat concave behind; lateral edges of elytra not long-hairy.

Length, 4½ mm.

Hab. San Antonio da Barra, Bahia, November—December 1888 (Gounelle).

One ♂.

124. **Eugonus simplex** spec. nov.

♀. Similar to *subcylindricus*; elytra, pygidium and abdomen more irrorated with brown, and pronotum more densely dotted with clay; tibiae with a brown ring at base and a brown spot in middle. Head and pronotum without large punctures, besides the very minute and dense puncturation. Sides of prothorax sinuate before base, apical angle more strongly produced than in *subcylindricus*, bent outwards. Elytra more coarsely punctate-striate than in *subcylindricus*, the interstices more or less feebly convex; apical edge with conspicuous tubercle close to sutural angle. Prosternum mesially much more sparsely punctured than at sides. Metasternum as in *subcylindricus*, with a mesial groove as in that species.

Hab. Jatahy, Goyaz, Brazil.

One ♀.

125. **Eugonus tenuis** spec. nov.

♀. In colour similar to *E. subcylindricus*, pale pubescence of upperside more silky, lighter in tint, more extended, especially on pronotum, brown median band of elytra very much narrower, being little wider than the posterior band. Prothorax one-fourth longer than broad; the anterior angle much less projecting than in *E. subcylindricus*; elytra much longer in proportion to the width, their base convex. Prosternum and sides of meso-metasternum punctured. Abdomen of ♂ mesially impressed, without patches of yellow hairs. Midtibia of ♂ without spur at apex.

Length, 5 mm.

Hab. Cochabamba, Bolivia (Germain).

One pair.

126. **Eugonus robustus** spec. nov.

♂ ♀. Black ; pubescence of upperside raw umber, grey at suture and lateral edges of elytra and on underside and legs; upperside irrorated with black, a black sutural spot behind scutellum, another behind middle, and a third (divided) before apex larger ; pygidium, underside and legs irregularly marked with black ; club of antenna rufous, shaft brown.

Rostrum mesially carinate behind apical sinus. Head and pronotum almost impunctate. Prothorax broader than long, laterally rounded, sinuate before base, transversely impressed above before carina. Scutellum longer than broad, extending beyond the transverse basal sulcus of elytrum. Elytra somewhat flattened at suture, seriately punctate, the lines not much impressed ; basal edge slightly rounded. Underside entirely impunctate. Basal groove of metasternum very deep. In ♂ a subapical tubercle on each side of metasternum ; abdomen slightly flattened, third and fourth segments each with a transverse apical patch of yellow hairs.

Length, 9 to 14 mm.

Hab. Marco da Legua, Para, March 1895, *type* ; Pery-Pery, Pernambuco, December 1892 (Gounelle).

Three pairs.

127. **Eugonus ornatus** spec. nov.

♂ ♀. Black, covered with an even pubescence of a cinereous grey colour ; shaft of antenna, palpi, tibiae and tarsi rufous ; a row of spots on each side of pronotum extending from dorsal carina obliquely frontad and laterad, and the following markings of elytra velvety black, sharply defined, somewhat variable : a half-ring, open in front, reaching basal edge close to scutellum, a square spot on humeral angle, a spot behind shoulder, produced upwards, a broad transverse median band, bisinuate behind on each elytrum, dilated forward on disc. Scutellum also black.

Rostrum flat, without mesial carina behind apical sinus. Club of antenna black, broad, compact. Prothorax a little longer than broad, with nearly parallel sides ; dorsal carina very faintly concave. Elytra cylindrical, not depressed at suture ; striation distinct, fine at sides and apex. Prosternum and sides of meso-metasternum with large punctures. Abdomen of ♂ not impressed.

Length, $3\frac{3}{4}$ to $4\frac{3}{4}$ mm.

Hab. Jatahy, Goyaz, Brazil.

A series.

128. **Eugonus particolor** spec. nov.

♂ ♀. Black ; antenna rufescent. Head and rostrum, a large apical lateral patch, and an elongate basal mesial spot on pronotum, elytra, sides of pygidium, and legs densely pubescent grey, more or less conspicuously shaded with cinnamon-rufous, the rostrum, a mesial spot on pronotum, sutural area of elytra (sometimes nearly the whole elytra) and legs remaining generally grey ; sides of sterna and abdomen less densely pubescent grey ; elytra with a black sutural patch behind middle and another at the lateral margin, often merged together to a band, humeral angle, three marginal dots between scutellum and shoulder, some dots at the lateral margin and a sutural spot before apex also black ;

basal half of femora and a broad antemedian ring on tibiae black; the black and light colours contrasting strongly; abdomen with black lateral spots.

Third antennal segment longer than fourth. Prothorax about as long as broad, rounded laterally in apical half, shallowly sinuate before base; dorsal carina concave in middle. Basal margin of elytrum somewhat rounded, the shoulder distinctly receding; the rows of punctures not very distinct on account of the dense pubescence. Underside without large punctures, except on middle of prosternum. Abdomen of ♂ impressed mesially, with transverse subapical brushes of yellow hairs on segments 3 and 4, and traces of such brushes on segments 1 and 2. No distinct groove near base of metasternal episternum.

Length, 9 to 12 mm.

Hab. Jataby, Goyaz, Brazil, *type*; Sao Paulo; Trinidad; Surinam.

A series.

Eugonodes gen. nov.

Differs from *Eugonus* in the apical sinus of the rostrum being vestigial or absent.

Type: *E. marmoreus* spec. nov.

129. Eugonodes marmoreus spec. nov.

♂. Similar to *Eugonus subcylindricus* (1839) Fahrs., narrower, pale pubescence of upperside more like that of *Gymnadrocerus antennatus* (1866), the black spots of the elytra forming two indistinct transverse bands situated in middle and before apical declivity.

Rostrum and frons each with a small mesial depression, rather finely punctured like pronotum; mesial sinus vestigial. This broader than long, sides parallel from near apex to base. Elytra punctate-striate. Prosternum and sides of meso-metasternum punctured, the punctures of middle of prosternum rather small. Abdomen (♂) mesially depressed; segments 2 to 4 with an interrupted apical transverse patch of yellow hairs. Foretibia slightly curved, faintly hooked. Sole of first tarsal segment longer than that of second.

Length, 7½ mm.

Hab. Serra de Baturite, Ceara, January 1895 (Gounelle).

1 ♂.

130. Eugonodes brevirostris spec. nov.

♀. Rufous brown, the parts covered with a light pubescence rufous; a large basal lateral patch on pronotum, the two patches connected at base, a spot between them, an irregular antemedian band on elytra and a narrower anteapical one black-brown.

Rostrum extremely short, only half the length of that of *Eugonus subcylindricus*, depressed mesially. Upperlip not visible. Upper edge of antennal groove very oblique. Head and rostrum longitudinally, somewhat obliquely, punctate-rugate. Prothorax with parallel sides and rounded hinder angle; rather finely punctured. Scutellum transverse. Elytra cylindrical; basal edge of each slightly convex, almost straight but oblique, the two together forming an obtuse angle; punctured stripes impressed, interstices slightly convex behind; the elytra appearing more or less striped with clayish grey on account

of the punctured stripes being partly brown. Sterna punctured at the sides; prosternum convex in front, with the apical margin depressed.

Length, 8 mm.

Hab. Salobro, Bahia, Brazil, June—July 1885 (Gounelle).

1 ♀.

131. **Euparius polius** spec. nov.

♂ ♀. Similar in shape to slender specimens of *E. tigris* (1833) Gylh. and *tapirus* (1855) Jek.; pubescence grey, not variegated with ochraceous. Lateral carina of pronotum as prominent as in *tigris*, dorsal carina faintly concave mesially, slightly convex laterally. Spots of pronotum black, situated as in *tigris*, the mesial ones more elongate, resembling those of *tapirus*, the anterior pair, however, being shorter, and the posterior pair longer. Spots of elytra mostly smaller than in *tigris*, no spots on humeral callosity and at basal fourth of suture; spots before apical declivity and some of the sublateral ones elongate. Abdomen with one series of black spots; a broad black middle stripe, dilated at the bases of the segments. Grey middle ring of tibiae very much broader than the clayish ring of *tapirus* and *tigris*, occupying the greater part of the tibiae.

Hab. Colombia.

One pair.

132. **Euparius obesus** spec. nov.

♂ ♀. Short, broad, convex. Black, pubescence coarse. Antennal segments 1 to 8 rufous brown, 11 luteous. Head and rostrum white, variegated with ochraceous. Pronotum with a number of irregular ochraceous spots and two white subapical spots, besides some white speckles near apex. Elytra ochraceous in sutural and alternate interspaces, white in second, fourth and sixth, lateral and postmedian area blackish, a spot on basal callosity within second interspace, and some postmedian dots black. Underside speckled with grey. A broad postmedian ring on tibiae, and upperside of first tarsal segment grey.

Maxillary palpus incrassate, third segment half as long again as broad; buccal fissure broader than lobe of false mentum. Segment 11 of antenna circular. Prothorax much broader than long, as much produced forward above as in *callosus* (1833), strongly convex, depressed along basal carina, sinuate laterally before basal angle; carina concave in middle, lateral angle less than 90°, slightly rounded. Scutellum very small, a little longer than broad. Elytra one-third narrower than long, strongly convex, sutural stripe depressed, alternate interstices raised; punctures of all stripes large. Prosternum very short. Mesosternal process vertical, truncate, broad, slightly convex mesially at apex. Metasternum strongly convex. Abdomen of ♂ strongly depressed mesially. First segment of hindtarsus longer than second.

Length, 6 to 7½ mm.; breadth, 3 to 4 mm.

Hab. Jatahy, Goyaz, Brazil, *type*; Paraguay (Dr. Bohls).

2 ♂♂, 3 ♀♀.

133. **Euparius calcaratus** spec. nov.

♂ ♀. Similar in shape to *E. apicalis* and *ajax*, but much smaller, not being much longer than the largest specimens of *E. lunatus* (1801) Fabr., slenderer than the three species mentioned. In colour similar to *ajax*, but more extended white

and grey. Rostrum and frons, an irregular, rather large, lateral spot on pronotum just above and in front of the apex of the lateral carina and two subapical dots, a nebulous patch before middle of elytra, common to both, and another before apical declivity, and a number of lateral dots on elytra more densely pubescent white. Underside speckled with clayish white, the pubescence condensed laterally; an indistinct mesial mark on pronotum in front of carina, and a dot at each side of disc behind middle of the same clayish white colour. Tibiae brown at base and apex. Tarsi entirely brown above.

Pale end-segment of antenna longer than ninth. Pronotum convex, depressed behind; hinder angle as in *ajax*, being about 90°, with the tip distinctly rounded off; side not sinuate before angle. Elytra slightly depressed at suture, subbasal callosity and third interspace very feebly elevate. Mesosternum with rounded tubercle between coxae. Hindtibia of ♂ with apical, ventral, obtuse process. Hindtarsus compressed, second segment as high as broad.

Length, 8 mm.

Hab. French Guiana.

One pair.

134. **Euparius molitor** spec. nov.

♀. Stouter than *calcaratus*, which it resembles, more densely pubescent grey-white; lateral spot of pronotum less distinct; alternate interspaces of elytra obviously tesselated with brown and white; tibiae nearly entirely grey-white; first and greater part of second tarsal segments grey-white above, third black; second of anterior tarsus nearly black. Rostrum and frons much broader than in *calcaratus*, mesially canaliculate, the latter twice as wide as the eye is high in frontal view. Second antennal segment subglobular, ninth nearly twice the length of the tenth, but shorter than the eleventh, which is twice as long as broad. Lateral angle of pronotal carina more strongly rounded than in *calcaratus* and *ajax*. Alternate interspaces of elytrum slightly but distinctly elevate. Mesosternal process vertical, somewhat slanting at apex, not convex, not tuberculate, apical margin rounded. First mid- and hindtarsal segments much longer than second.

Length, 9 mm.

Hab. Cali, Colombia, ix.–xii. 1894 (W. Rosenberg).

1 ♂.

135. **Euparius similis** spec. nov.

♂. Similar to *E. calcaratus*, elytra rather broader. Upperside of head and rostrum, a triangular mesial pronotal patch extending from carina beyond middle, a sutural area on elytra, not sharply defined, dilated at base, behind middle and again at apex more densely pubescent white; disc of pronotum and sides of elytra brownish; underside and legs pubescent white; a subbasal ring on tibiae and extreme tip brown; second and third segments of foretarsus nearly black, the same of the other tarsi less white than the first segment. A spot on basal callosity of elytrum black, first and third interspaces of elytrum conspicuously tesselated with black or brown, especially the first.

Rostrum faintly impressed at base in middle. Frons with slight mesial sulcus situated on a faint elevation. Antennal segments 8 and 9 twice as long as broad (10 and 11 missing); 4 a little shorter than 5. Angle of pronotal carina 90°, extreme tip rounded off; disc more strongly convex than in either *calcaratus* or

molitor. Scutellum transverse. Basal callosity of elytrum higher than in the species just mentioned, divided by the second punctured stripe into an inner rounded tubercle and an outer carina, the latter being the basal portion of the elevate third interspace. Mesosternal process vertical, declivous at apex, with the apical margin rounded. First hindtarsal segment not longer than second.

Length, 8 mm.

Hab. Upper Amazons.

1 ♂, received from Messrs. Standinger and Bang-Haas.

136. **Euparius consors** spec. nov.

♂. In colour and shape similar to *similis*, smaller. Black, brunnescent, shaft of antenna brown, end-segment luteous. Pubescence of upperside black-brown, mixed with white. A rather large, sharply defined, irregular lateral spot on pronotum situated in front of the lateral carina densely pubescent chalky white; four tiny discal dots on pronotum, two in front and two behind, a triangular mesial spot before basal carina, a sutural area on elytra, widest behind subbasal callosity, not sharply limited behind, a nebulous discal patch before apical declivity, apex of elytra, first tarsal segment and middle of tibia of mid- and hindlegs more densely pubescent white. Interspaces 3 and 5 of elytrum obviously tesselated with brown.

Rostrum with faint basal mesial sulcus. Frons less than twice as wide as the eye is high in frontal view. Antennal segment 3 one-third longer than 4, 8 almost globular, 9 a little longer than broad, 11 more than half as long again as broad, elliptical. Pronotum regularly convex, depressed before basal carina; this angulate in middle, its lateral angle 90°, with the extreme tip a little rounded off. Scutellum transverse. Elytra slightly depressed along suture, the depression widened behind subbasal callosities, separating the latter from the slightly elevated posterior two-thirds of the third interspace. Mesosternal process declivous, faintly convex near apex. Abdomen feebly depressed. First tarsal segment much less than half the length of the tibiae.

Length, $5\frac{2}{3}$ mm.

Hab. Jatahy, Goyaz, Brazil.

1 ♂.

137. **Euparius nodosus** spec. nov.

♂ ♀. Similar to *E. clitelliger* (1839) Fahrs.; distinguished by the prothorax being less deeply impressed above, the hinder angles of the same being much more produced backwards, by the elytrum bearing in the middle a tubercle which is as high as the subbasal one, and by the intercoxal process of the mesosternum being much more strongly tuberculate. In colour the two insects are nearly the same, but the pronotum is less variegated in *nodosus*, the subbasal blackish spots found in *clitelliger* being practically absent from the new species and the white subapical spots being vestigial.

Hab. Colombia, *type*; Jatahy, Goyaz, Brazil; Upper Amazons.

1 ♂, 3 ♀♀.

138. **Euparius rufus** spec. nov.

♂ ♀. Very pale rufous buff; apex of mandible, segments 9 and 10 of antenna, some parts of the sterna, and numerous dots on upper surface brown-black;

pubescence long, clayish ochraceous, mixed with grey, more clayish grey below; a spot near base of tibiae and another at apex brown.

Rostrum impressed at base in middle. Frons more than twice as wide as the eye is high in frontal aspect. False mentum short, distinctly separate from gula by a transverse depression, sinus shallow, lobes rounded at apex; buccal fissure broad. Antennal segment 9 not longer than apically broad, 11 ovate, not longer than 9. Pronotum transversely convex in middle, depressed in front and behind, with two slight impressions before carina, the latter more distinctly angulate in middle than is generally the case in this genus; lateral angle of carina 90°; lateral carina reaching to apical third: black spots small, irregular, a central one the most conspicuous. Scutellum punctiform, glabrous. Elytra similar in shape to those of *E. lunatus* (1801) Fabr., basal margin of each more strongly rounded; alternate interspace faintly raised, tesselated with brown-black and grey. Pygidium one-third broader than long, subtruncate in ♂. Mesosternal process subvertical, declivous at apex, which is subtruncate. Tarsi slender, first segment nearly half the length of the tibia.

Length, 5½ to 7 mm.

Hab. Cachabi, Ecuador, December 1896, *type*, and Paramba, Ecuador, 3500 ft., April 1897 (W. Rosenberg); also from "Colombia."

Two pairs.

139. **Euparius nigritarsis** spec. nov.

♂. In shape similar to *E. molitor* and *calcaratus*. Black; funiculus of antenna and claw-segments brown; end-segment of antenna luteous. Upperside, sides of abdomen and tibiae (base and apex excepted) brown, clothed with ochreous tawny pubescence mixed with grey; a mesial line on pronotum and an abbreviated lateral line extending from basal angle of carina forwards, a sutural area on elytra limited by the third interspace, reaching near the apical declivity, and some ill-defined dots on head white; alternate interspaces of elytrum chequered with brown; apex of tibiae, and first and second tarsal segments black.

Rostrum with a mesial groove at base extending on to frons; this only half as wide again as the eye is high in frontal view. Third antennal segment little longer than fourth, eighth globular, ninth one-third longer than broad, eleventh elongate-elliptical, more than twice as long as broad. Pronotum deeply depressed mesially from near apex to carina, strongly elevate at the sides of the depression before middle; basal carina rather distinctly angulate in middle; lateral angle less than 90°; lateral carina extending beyond middle. Scutellum a little broader than long, small. Elytra elongate, depressed at suture as far as third interspace; this somewhat elevate, with a black tubercle near base and a slightly elevate brown dash in middle, besides some spots farther back, the brown tesselations of interspaces 5, 7 and 9 also feebly raised. Mesosternal process first vertical, then almost horizontal, the apical portion being nearly in a plane with the metasternum, sides of vertical portion faintly elevate. Abdomen of ♂ hardly depressed.

Length, 7 to 8 mm.

Hab. Jatahy, Goyaz, Brazil.

2 ♂♂.

140. **Euparius albiceps** spec. nov.

♂♀. In structure similar to *E. apicalis* (1839) Fahrs., rostrum finely carinate mesially, hinder angle of pronotum rather more acute, elytra more depressed above, with the subbasal callosities higher. Head and rostrum, a mesial line on pronotum interrupted before middle, widened behind, a large sutural area on elytra, extending from base to apical declivity and being laterally sinuate just behind middle, greyish white; two subapical and a postmedian dot on each side of pronotum, with a fourth dot in between, grey or clayish; sides of elytra sparsely dotted with grey. Underside and femora irrorated with clayish grey. Tibiae with an indistinct grey middle ring; upperside of first and fourth tarsal segments grey. Funiculus of antenna either brown or rufous. False mentum with distinct mesial carina.

Hab. Brazil: Serra de Baturite, Ceara, January 1895 (Gounelle), *type*; Marco da Legua, Para, March 1895 (Gounelle); Cayenne.

Two pairs.

E. tarsalis (1839) Fahrs. is easily distinguished from *albiceps* by the acute angle of the prothorax, the black first and second tarsal segments, the colour of the prothorax, etc.

141. **Euparius parvulus** spec. nov.

♂. Black, shaft of antenna and legs rufous, end-segment of the former luteous; upperside pubescent tawny-olive, irrorated with brown, first and third interspaces of elytra greyish white, tesselated with brown, a few grey-white linear spots also in the fifth and seventh interspaces; underside covered with a rather sparse grey pubescence (pubescence of legs soiled by the specimen having been glued on paper).

In shape similar to small specimens of *E. lunatus*; frons much narrower; basal depression of pronotum less extended forward. Antennal segments 7 and 8 almost globular, 9 not longer than apically broad, 11 much longer than 9, but only one-fourth longer than broad, being very broad. Lateral angle of pronotal carina a little less than 90°. Mesosternal process flat, declivous at apex, truncate.

Length, 4 mm.

Hab. Cayenne.

1 ♂.

This insect reminds one of *Phaulimia*.

142. **Euparius hypsideres** spec. nov.

♂. Black; palpi and antenna rufous, segments 9 and 10 a little darker; tibiae and tarsi rufescent. Pubescence clayish grey, rather long, forming dots on pronotum; apex of mid- and hindtibiae brown; second tarsal segments less densely pubescent grey than first.

Rostrum truncate, not sinuate mesially. Frons more than twice as broad as the eye is high in frontal view. Antennal segment 3 very little longer than 4, 8 hardly twice as long as broad, 9 about one-third longer than broad, 11 elliptical, one-fourth longer than broad. Prothorax conical, twice as wide at base as at apex, laterally sinuate before base, basal angles acute, produced back- and sidewards; disc very strongly convex, globose, with a faint depressed mesial line

which disappears on the top of the globosity ; basal carina shallowly concave in middle. Scutellum punctiform, slightly triangular. Elytra strongly convex, slightly depressed along sutnre, coarsely punctate-striate, all the interstices somewhat convex ; subbasal elevation not prominent, bearing a tuft of longer pubescence. Pygidium longer than broad. Mesosternal process flat, truncate, subbasal. Metasternum short. Abdominal segments 1 to 4 broadly depressed, with penicillate tubercles at each side of the depression, segment 5 in lateral view less extended ventrad than 4, simply convex.

Length, 7 mm.

Hab. Espirito Santo, Brazil.

1 ♂.

Allied to *callosus* (1833) Gylh., but thorax much more convex ; its hinder angle more acute, the mesosternal process not convex, and the antennal segments 4 and 8 much shorter.

143. **Euparius quagga** spec. nov.

♂ ♀. Similar to *E. zebra ;* black bands of pronotum shorter ; elytrum with six black spots only, namely a transverse subbasal band as in *zebra*, but shorter, not reaching sixth interspace, a spot on humeral angle, a second before middle between second and fifth interspaces, a third before apical declivity, oblique, placed between the same interspaces, and two sublateral rounded ones ; of these one at basal third, the other, which is a little more dorsal, behind middle ; basal edge, posterior part of lateral edge and a thin sutural stripe just before apex also black ; first tarsal segment the same colour as tibiae ; base and tip of the latter black like tarsal segments 2 to 4 ; abdomen black, pale rufous at sides and apex, without black lateral dots.

Rostrum with basal mesial impression. Club of antenna broader than in *zebra*. Mesosternal process convex at apex (but not tuberculate). Foretibia slightly curved ; first foretarsal segment as long as the other segments together.

Length, 8 to 9 mm.

Hab. Bolivia.

1 ♂, 3 ♀♀, received from Messrs. Standinger and Bang-Haas.

144. **Euparius suturalis** spec. nov.

♂. Close to *E. equestris* (1839) Fahrs. Pronotum more densely pubescent, devoid of mesial vitta, but provided instead with a black lateral vitta which extends from the basal angle to the apex. Elytra without transverse bands ; lateral edge black. Tip of tibiae also black.

Length, 7 to 8 mm.

Hab. Jatahy, Goyaz, Brazil, *type ;* Cerquiera Cesar, Sao Paulo, January 1899 (Gonnelle).

2 ♂♂.

Erotylopsis gen. nov.

♂ Differs from *Euparius* in the prothorax being very broad, little narrower at apex than at base, with the sides flattened and beneath hollowed out as in *Brachytarsus* (*scabrosus*), and the lateral carina continued to the apex.

Type : *E. pujoli* spec. nov.

145. **Erotylopsis pujoli** spec. nov.

♂. Rufous, covered with a thin grey pubescence; head and abdomen brunnescent; antennal segments 7 to 11, extreme lateral and basal edges of pronotum and elytrum, and an apical spot on femora black. Pronotum with a transverse row of four black rounded spots in middle and a smaller spot before scutellum. Elytrum with five large luteous spots, covered with a grey pubescence, all encircled with black, the first two subbasal, not quite separate, the third and fourth postmedian, also not entirely separate, the fifth before the apex.

Mandible with sharp tooth at upper edge on innerside. Rostrum truncate, twice as broad as long, with basal mesial groove, which extends on to frons. Sinus of false mentum shallow, lobes rounded at apex; buccal fissure broad. Eye very prominent. Ninth segment of antenna not longer than apically broad, eleventh a little longer than broad. Pronotum finely punctured, about three times as broad as long, apical margin sinuate laterally; lateral angle of carina 90°; basal carina broadly concave in middle. Elytra of the same shape as in *Euparius equestris*, rather shorter, glossy like thorax, finely seriate-punctate, first punctured stripe hardly impressed. Prosternum very narrow in front of coxae, margined at apex. Mesosternal process broad, flat, subvertical, truncate. Metasternum short, rather deeply grooved transversely behind mesosternal process. Abdomen (♂) with broad ovate groove extending from first to fourth segment, accompanied on each side by tufts of hair. Foretibia slightly curved. First tarsal segment less than one-third of the tibia in length.

Length, 7½ mm.; breadth, 4 mm.

Hab. Jatahy, Goyaz, Brazil.

1 ♂.

LEPIDOPTERA FROM BRITISH NEW GUINEA, COLLECTED BY MR. A. S. MEEK.

By the Hon. WALTER ROTHSCHILD, Ph.D.

(Plates II. and III.)

THE stimulus to my eagerness for Mr. A. S. Meek to explore the higher parts of the Owen Stanley Range was given by the wonderful discoveries made by Herr Emil Weiske both in birds and Lepidoptera. The bulk of Herr Weiske's Lepidoptera came into my possession after Herr Ribbe had described as new thirteen species of *Pieridae* and a marvellous *Papilio* (*Insekten-Börse* xvii. 1900). Of these several *Pieridae* were not new to science, but enough remained to show us that the watershed of the Aroa River, where Weiske's specimens came from, must have a wonderful and rich lepidopterous fauna. Mr. Meek proved this up to the hilt.

After several years of vain endeavours, I at last persuaded Mr. Meek to undertake the very difficult journey to the head-waters of the Aroa River. Though the distance, as the crow flies, from the coast to the Upper Aroa River is but short, Mr. Meek and his party had to battle against immense difficulties and undergo many hardships before they reached a favourable collecting ground. Mr. Meek stayed in a district called Avera from the end of January to the beginning of April 1903, and made here a collection of nearly 16,000 specimens of Lepidoptera. Among these is a ♀ of *Troides goliath titan*, a series of both sexes of *Troides meridionalis*, a long series of *Papilio weiskei*, several *Delias* discovered by Weiske, and a very great number of new moths.

However, the altitude of the place was not great enough. Therefore Mr. Meek, soon after his return to Port Moresby, started again for the interior, boldly facing a second time the hardships of a climb up the mountains. This time a higher altitude was attained. But the work had scarcely been started at Owgarra, north of the head of the Aroa River, when a great disaster befell the expedition. Nearly the whole party contracted measles and had to hurry back to the coast, where Mr. Meek arrived with the loss of one native collector, who died. It was a very unfortunate ending to what promised to be the greatest scientific haul ever made in Lepidoptera in New Guinea, and we sincerely hope that Mr. Meek will meet with better luck on his next expedition to these regions.

The collection of Lepidoptera, though consisting of only 500-odd specimens, proves those high altitudes to be inhabited by a proportionately very great number of species which do not occur at lower elevations. The variety of the genus *Delias* is beyond every expectation. Mr. Meek procured not only all the species discovered by Weiske, but obtained in addition seven new ones. The finest discovery, however, is the new *Troides*, by its banded abdomen so unlike everything known. What may the ♂ be like? We hope that Mr. Meek, the discoverer of the peculiar tailed ♂ of *meridionalis*, will also succeed in finding the ♂ of the present species.

PAPILIONIDAE.

1. **Troides chimaera** spec. nov. (Pl. III. f. 25. ♀).

♀. Black. Head smaller than in the allied species. Eye without white border. Red colour of breast restricted, forming two patches which are not extended downwards to coxae as in *tithonus* and *paradisea*. Abdomen shaggy, each segment with a yellow apical band all round. Legs black.

Wings, *upperside* black.——Forewing: subfalcate, the distal margin being shallowly emarginate; vein SC^3 from angle of cell as in *paradisea*, stalk SC^{4+5} about as long as the upper two cross-veins; a transverse, sinuous cell-patch, an interrupted row of discal spots, another of postdiscal ones, and sharply marked fringe-spots white, shaded with black.——Hindwing similar in shape to that of *paradisea*, but more deeply scalloped, rather woolly proximally: a spot in cell and the disc white shaded with black, the discal area externally tinged with yellow: seven black spots within this area, the first and the last connected with the black area, the other five isolated; white fringe-spots distinct.

Underside similar to upper.——Forewing: spots larger, purer white, discal series complete from SC^3 to (SM^1), the postdiscal spots more or less edged with grey, some diffuse grey scaling from postdiscal spot SC^3—SC^1 outwards.——Hindwing: cell-spot and proximal portion of discal area purer white, distal portion purer yellow.

Length of forewing: 103 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

This very peculiar insect is in neuration nearest to *paradisea*, but differs from all species known in the banded abdomen.

2. **Troides goliath.**

Ornithoptera arruana, Felder; aberr. ♀ *goliath* Oberthür, *Et. Ent.* xii. p. 1 (1888).
Ornithoptera goliath id., *l.c.* xix. p. 1. t. 4. f. 19 (1894).

Dr. Pagenstecher, in *Jahrb. Nass. Ver. Nat.* lvi. p. 77 (1903), has published an article on this fine insect. We agree with Dr. Pagenstecher perfectly in his conclusion that *goliath*, *supremus* (= *schoenbergi*), *elisabethaereginae*, and *titan*, are names applying to one species only. But we must make a reservation. The specimens from British New Guinea are certainly different from those obtained in other parts of the island. We possess of this southern form (*goliath titan*) two ♀♀ from the Aroa River, one collected by Weiske and the other found by Meek. Both specimens differ from those known from Dutch and German New Guinea in the forewing bearing only a few very small white markings, and in the posterior black discal spots of the hindwing being smaller.

We have no specimens of *goliath* from German New Guinea, but possess one ♂ and two ♀♀ from the Dutch portion of the island. The ♂ came from somewhere about Geelvink Bay. It was contained in a collection made by natives or half-castes. This specimen agrees in colour well with the second one of Pagenstecher. It has a forewing of 82 mm. length. (We mention incidentally that it is erroneous to say that the green posterior area of the forewing is powdered with black. The green scales belong all to the upper layer. It is a black area powdered with green.)

Our two ♀♀ from Kapaur, Dutch New Guinea (Doherty)—the one caught in January, the other in February 1897—differ from one another in the size of the

spots of the forewing, in the length of the latter and in some other details. The smaller specimen, with a forewing of 100 mm. length, has the cell-patch of the forewing reduced to two contiguous spots standing one on each side of the middle fold of the cell; the discal spots M^3—(SM^1) are very small, the upper one being a mere dot; the submarginal spots are also small. The black spots on the hindwing are large. The second and third abdominal segments are mesially black above.

The second Kapaur specimen has a forewing of 114 mm. length. The white spots of the forewing are larger, the second and third abdominal tergites are not black in middle, and the black spots of the hindwing below are smaller than in the first specimen.

The forewings of our two *females* of *goliath titan* measure 110 mm. and 103 mm. respectively.

The following specimens are known of *goliath*:

a. Troides goliath titan.

1 ♂ in coll. Grosse-Smith; from British New Guinea.
2 ♀♀ in Mus. Tring; „ „ „ „

b. Troides goliath goliath.

1 ♀ in coll. Oberthür; from Dutch New Guinea.
1 ♂ in Mus. Tring; „ „ „ „
2 ♀♀ „ „ „ „ „ „
1 ♂ in Mus. Budapest; from German New Guinea.
2 ♀♀ „ „ „ „ „ „
1 ♂ in coll. Ney; „ „ „ „
2 ♂♂ „ Pagenstecher; „ „ „ „
1 ♀ „ „ „ „ „ „

PIERIDAE.

3. Delias albertisi neyi.

Delias neyi Ribbe, *Insekten-Börse* xvii. p. 308 (1900) (Aroa R.); id., *Iris* xiii. p. 339. t. 8. f. 3 (1900); Grose-Smith, *Rhop. Exot.* iii., *Delias* t. 8. f. 1. 2 (1901).

We have three ♂♂ of this form of *albertisi* Oberth. (= *discus* Honr.), two found by Weiske and one obtained by Meek. In one of Weiske's specimens the black discal spot of the underside of the hindwing is absent. Mr. Grose-Smith, *l.c.*, made the suggestion that *neyi* was the ♂ of *albertisi*. Since the ♂ of *neyi* is rather more extended black on the forewing than the ♀ of *albertisi*, while in other *Delias* the reverse is the case, the suggestion was hardly supported by evidence. We have now the proof of its being erroneous. Among the material collected by W. Doherty, at Kapaur, Dutch New Guinea, in January 1897, there is a ♂ of *albertisi*, and we have lately received from Herr Ribbe one of the original ♀♀ of (*discus* =) *albertisi* collected at Sekar by H. Kühn. This true ♂ of *albertisi* differs from that of *neyi* in the white area of the forewing being much more extended, and in the discal spot of the hindwing below being very large, as it is in the ♀ of *albertisi*. However, there can be no doubt that *neyi* and *albertisi* are representatives of one another, being geographical forms of one species.

Note.—*Delias katharina* Ribbe, *Insekten-Börse* xvii. p. 308 (1900) is *Delias aruntius* Godm. and Salv., *Proc. Zool. Soc. Lond.* p. 613. t. 56. f. 5. ♂ (1880) (♂♀, Pt. Moresby).

Delias harterti Ribbe, *l.c.*, is a *Huphina*, being the same species as *Huphina almormis* Wallace.

4. Delias kummeri.

Delias kummeri Ribbe, *Insekten-Börse* xvii. p. 308 (1900) (Aroa R.), id., *Iris* xiii. p. 340. t. 8. f. 4. ♂ (1901); Grose-Smith, *l.c.* t. viii. f. 5. 6. (1901).

This is apparently a common species. Weiske found only ♂♂. Among Meek's material there are a number of ♀♀, which agree with the ♂♂ except in the more extended black distal borders of the upperside and the slightly shorter forewing.

5. Delias kummeri f. ligata nov. (Pl. II. f. 20. ♂).

♂♀. Among the long series of *kummeri* there is a great number of specimens in which the red postdiscal line of the underside of the hindwing is continuous with the red spot situated at the costal margin near the end of C. This red line is more or less heavily bordered with black proximally. A few specimens stand intermediate between the two forms.

6. Delias bornemanni.

Delias bornemanni Ribbe, *Insekten-Börse* xvii. p. 308 (1900) (Aroa R.); id., *Iris* xiii. p. 339. t. 8. f. 2. ♂ (1901).

There are four ♂♂ and three ♀♀ in the collection. The sexes are practically the same in pattern. The forewing is a little shorter in the ♀ than in the ♂, and bears three or four very small white subapical dots on the upperside. The black distal area of both wings is wider in the ♀. The red spots of the underside of the hindwing are not quite constant in size.

7. Delias dives spec. nov. (Pl. II. f. 14. ♂).

♂. Wings white on *upperside*.——Forewing black from apex of cell distad, costal edge black down to base, white area rounded distally, extending close to apex of SM^2.——Hindwing with very thin black distal border, not exceeding 1 mm. in width.

Underside olive-black, somewhat purplish, especially the hindwing, slightly glossy olive-green.——Forewing: a broad pale yellow band before middle anteriorly, just proximally of cross-veins, gradually widening behind, not reaching costal edge; four submarginal dots also pale yellow, the second the largest.——Hindwing: median band deeper yellow than on forewing, terminating behind at a large scarlet abdominal marginal spot; moreover, a submarginal row of five scarlet spots, rounded, nearly touching fringe.

♀. Not known.

Hab. Owgarra, north of head of Aroa River, May 1903. One specimen.

8. Delias cuningputi (Pl. II. f. 5. 6. ♀♀.)

Pieris cuningputi Ribbe, *Insekten-Börse* xvii. p. 308 (1900) (Aroa R.)
Delias cuningputi, Grose-Smith, *l.c.* t. 8. f. 9. 10 (1901).

Among a series of specimens of this species are several ♀♀ which differ markedly from the ♂♂ on the underside, the forewing being yellow from base to disc, and the white median band of the hindwing being abbreviated. The black distal borders of the upperside are wider than in the ♂.

9. Delias weiskei.

Delias weiskei Ribbe, *Insekten-Börse* xvii. p. 329 (1900) (AroaR.).
Delias nivifica Grose-Smith, *l.c.* t. 9. f. 9. 10. ♂ (1901).

Mr. Grose-Smith erroneously renamed the present species, while he intended to give a new name to Ribbe's *Tachyris weiskei*, which is also a *Delias*. The *Delias weiskei* being described by Ribbe before the *Tachyris weiskei*, the latter must be renamed, which we have done below.

The ♀ of *D. weiskei* differs from the ♂ in the much broader black distal borders to the upperside, the more obtuse forewing, and the presence of two or three very small white subapical dots on the upperside of the forewing, these dots being seldom vestigial in the ♂.

10. Delias aroae (Pl. II. f. 4. ♀).

Pieris aroae Ribbe, *Insekten-Börse* xvii. p. 346 (1900) (Aroa R.).
Delias aroae, Grose-Smith, *l.c.* t. 9. f. 4. 5. ♂ (1901).

The black distal area of the upperside of the forewing is broader behind in the ♀ than in the ♂, and includes two or three very small yellowish white subapical dots : the hindwing has a broad black distal border, varying individually from $2\frac{1}{2}$ to 4 mm. One of our three ♀♀ is slightly washed with greenish yellow above, and bears some whitish spots in the black border of the hindwing. The white median band of the underside of the hindwing is abbreviated, as in the ♀ of *D. eumyrpti*, and the yellow submarginal spots are very much smaller than in the ♂.

11. Delias emilia nom. nov.

Tachyris weiskei Ribbe, *Insekten-Börse* xvii. p. 330 (1900) (Aroa R.).
Delias weiskei, Grose-Smith, *l.c.* t. 8. f. 6. 7. 8. ♂♀ (1901).

This is a *Delias*, not a *Tachyris*. Its name must be changed on account of *Delias weiskei*, which stands first. See above, No. 9.

12. Delias itamputi (Pl. II. f. 10. 11. ♀♀).

Delias itamputi Ribbe, *Insekten-Börse* xvii. p. 330 (1900) (Aroa R.) ; Grose-Smith, *l.c.* t. 8. f. 7. 8. ♂ (1901).

The ♀ is widely different from the ♂. I give here a description of it.

♀. Wings, *upperside*, black.——Forewing : a proximal area, widest behind, ill defined, not quite reaching to base of M^1 greenish yellow ; a subapical band of five patches chrome-yellow, middle ones more or less prolonged.——Hindwing greenish yellow from base to apex of cell, the area not sharply defined.

Underside black, somewhat glossy, especially on hindwing.——Forewing : greenish yellow, basal area smaller than above, subapical band broader and longer.——Hindwing : a basal costal patch greenish yellow, in one ♀ a spot of the same colour also at apex of cell (just vestigial in the specimen of which the underside is here figured), a submarginal greyish white line parallel with edge of wing, more or less interrupted at the veins.

13. **Delias clathrata** spec. nov. (Pl. II. f. 7. 9. ♂, 8. ♀).

♂. Wings, *upperside*, white.——Forewing with broad black distal border, which extends along costal margin to base and is dentate at the veins, the costal border being also produced backwards on the cross-veins; two to four white subapical dots.——Hindwing with thin black distal border.

Underside.——Forewing for the greater part black, a broad white discal band, occupying nearly the whole hinder margin, strongly narrowing costad, curved costad in front, incised distally on the veins, uppermost partition almost separate; a submarginal series of spots, golden yellow, the upper three larger, the others minute, the first and second farther from distal margin than the others.——Hindwing white, a yellow spot near base behind costa; base, band beyond that spot, abdominal area and a narrow distal border black, a large median area also black, separated into patches by the white veins; base and abdominal area densely dusted over with greenish yellow scales: distal border widest at the veins.

♀. Like ♂, but the black colour of the distal marginal area more extended.

Hab. Owgarra, north of head of Aroa River, May 1903.

A series.

14. **Delias microsticha** spec. nov. (Pl. II. f. 18. 19, ♂♂).

♂. Wings, *upperside*, white.——Forewing: costal edge and a broad distal border black; this border gradually narrowed posticad, reaching as far proximad as base of R^1 and being only 1 to 1½ mm. broad at SM^2, concave proximally, slightly incised at the veins.——Hindwing with thin black distal border.

Underside purplish olive-black, glossy on hindwing and at apex of forewing.——Forewing: a broad streak in cell, gradually narrowed to base, two spots beyond apex of cell, and a series of subapical respectively submarginal dots.——Hindwing: a basal costal spot crimson; a spot in middle of costal margin, a row of submarginal dots, a spot in cell beyond middle, and a row of thin short streaks on disc yellow.

♀. Not known.

Hab. Owgarra, north of head of Aroa River, May 1903. Several specimens.

15. **Delias mira** spec. nov. (Pl. II. f. 12. ♂, 13. ♀).

♂. Wings, *upperside*.——Forewing black, a white subbasal patch from cell to hinder margin, bordered with sparser white scaling: a row of four small white subapical dots.——Hindwing white, apex black, this area extending nearly as far as cell, but being proximally densely shaded over with white, distal edge black also posteriorly.

Underside.——Forewing black, greyish white at hinder margin from base to distal angle, a greyish white costal spot beyond apex of cell; a series of five golden yellow submarginal spots.——Hindwing: costal edge white at base, a yellow patch behind this white border, limited by an obliquely longitudinal black streak extending from middle of base to middle of costal margin, a yellowish white costal dash separating this streak from the black distal border of the wing, which is widest at the veins; a black discal band just beyond apex of cell, narrowest at M^1, widest behind, not reaching up to SC^2; between this band and the black margin a large pale yellow patch; abdominal fold blackish, shaded with olivaceous yellow.

♀. Like ♂, but the white patch of the forewing larger above and below, the upperside with six submarginal spots on forewing, the white of the hindwing almost separating a black patch near cell from apical area, the yellow submarginal spots of the underside of the forewing much larger, six in number, and the black discal band of the hindwing reduced to a subcentral spot, followed by a small dot and a brown shadow.

Hab. Owgarra, north of head of Aroa River, May 1903. One pair.

16. **Delias eichhorni** spec. nov. (Pl. II. f. 15, 16. ♂, 17. ♀).

♂. Wings, *upperside*.——Forewing black, a large white triangular area from hinder margin forwards to R^3, penetrating into the cell, truncate-sinuate costally, not extending to base; three white spots beyond apex of cell from costal margin to R^3, more or less confluent, the first the smallest; two small white subapical spots.——Hindwing for the greater part white; a somewhat irregular distal marginal band black, tapering behind.

Underside.——Forewing black, a large deep cadmium-yellow area as shown in figure, deeply excised at the cross-veins; a row of five white submarginal spots, slightly tinged with citron-yellow, second the largest, fourth the smallest.—— Hindwing olive-black; a white band somewhat shaped like figure 3 obliquely from base of costal margin to disc, streaked or spotted with yellow between the veins, a submarginal row of large white spots, mostly nailhead-shaped, being produced to the distal edge, except the first; these also marked with yellow mesially; a yellow spot between end of band and SM^2; this vein citron-yellow; abdominal margin more or less white in middle.

♀. Differs from ♂ on the *upperside* in the forewing being more extended black and having the spots sulphur-yellow, in the hindwing being shaded with sulphur-yellow, and having a broader black border, which includes vestigial sulphureous spots; and on the *underside* in the forewing bearing a series of seven submarginal spots.

Hab. Owgarra, north of head of Aroa River, May 1903. A small series.

17. **Delias niepelti** (Pl. II. f. 3. ♀).

Delias niepelti Ribbe, *Insekten-Börse* xvii. p. 330 (1900) (Aroa R.); Grose-Smith, *l.c.* t. 8. f. 3. 4. ♂ (1901).

Mr. A. S. Meek sent a series of ♂♂ and several specimens of the hitherto unknown ♀ of this remarkable species. The forewing of the ♀ is chrome-yellow from base to apex of cell, above and below, and there is a series of spots of the same colour in the black area, these spots being much larger below than above. The hindwing above is canary-yellow, shaded with citron-yellow from base to apex of cell, being slightly whitish at abdominal margin; on the underside the hindwing is similar to that of ♂.

18. **Delias meeki** spec. nov. (Pl. II. f. 1. ♀, 2. ♂).

♂. *Upperside* as in *niepelti*, but the white area of the forewing more sharply defined, more straight distally, and anteriorly rather more extended, there being two white spots beyond the upper angle of the cell.

Underside also similar to that of *niepelti*; the yellow area of the forewing

much paler and distally straight, the subapical spots somewhat smaller: hindwing with a yellowish white costal patch reaching down to cell.

♀. Black colour of *upperside* rather more extended than in ♀ of *niepelti*, the yellow area of forewing more straight distally; basal half of hindwing grey, being yellow externally between SC^2 and R^1, or a little beyond these veins.

On the *underside* the yellow area of the forewing is paler than in *niepelti* ♀, less extended and distally straight; the hindwing bears a yellowish white costal patch which does not reach beyond R^1, not being triangular as in ♂, but longitudinal.

Hab. Owgarra, north of head of Aroa River, May 1903. A series, but most specimens in bad condition.

ERYCINIDAE.

19. **Abisara albiplaga avera** subsp. nov. (Pl. II. f. 23. ♂).

♂. Similar to the ♂ of *A. a. albiplaga* from Aru, both wings more obtuse, orange band of forewing, above, narrower; black costal area of hindwing larger, orange area less acutely triangular, less broad behind, black marginal spots larger. On the underside the band of the forewing is posteriorly narrower, and the black submarginal and marginal spots of the hindwing are much larger.*

Hab. Upper Aroa River. One specimen.

20. **Abisara weiskei** (Pl. III. f. 28. ♀).

♂. *Abisara weiskei* Rothschild, *Nov. Zool.* viii. p. 218. 404. t. 10. f. 2 (1902) (Aroa R.).

Mr. A. S. Meek found a ♀ specimen of an *Abisara* which belongs, doubtless, to the species of which we have described and figured the ♂ as *Abisara weiskei*, l.c.

This ♀, as will be seen from the figure, is remarkably different from the ♀♀ of *segecia* and *satraps* in the broad-banded forewing and deeply scalloped and almost uniformly olivaceous black hindwing. The white band of the forewing, *upperside*, is strongly narrowed in front, but there is a transverse spot in the cell which stands posteriorly so close to the band as to give the latter the appearance of being forked. The hindwing is purplish black on disc; it bears a series of black submarginal spots more or less bordered with pale grey proximally; anterior admarginal interspaces faintly tinged with tawny; prominent white fringe-spots.

Underside pale drab from base to disc.——Forewing: white band as above, white cell-bar continuous with it behind, a round spot proximally of this bar, the rounded interspace between bar and band, and the wing from the band outwards Vandyke-brown, paler at apex, white postdiscal line broad, continuous, shaded with orange behind.——Hindwing: two spots in cell, a curved median row of seven

* We have one ♂ of this species from Great Key, April 1896 (Webster), which differs from the Aru and New Guinea forms as follows:—*Upperside:* forewing more elongate, orange band only two-thirds the width of that of *avera*, less sharply defined proximally, shorter, reaching just beyond M^2, the area between band and hinder angle of wing being black; orange area of hindwing as broad behind as in the Aru form; black area more restricted; marginal spots more rounded than in *avera*, shorter. On the *underside* the band of the forewing is followed by a whitish spot M^2—SM^2; black submarginal spots of hindwing very large as compared with the other two forms, larger than the interspaces between them and the brown-black area. We name this subspecies:

Abisara albiplaga keiana subsp. nov. (Pl. II. f. 24. ♂).

spots, and a broad, ill-defined, outer discal band of confluent patches, widest between R^2 and R^3, Vandyke-brown; black submarginal spots bordered with white, admarginal interspaces ochraceous yellow, posteriorly shaded with olive.

Underside of abdomen orange posteriorly.

Note.—*Abisara albuna* Heller, *Iris* xv. p. 131. t. 3. f. 7. ♂ (1902) is the ♂ of *Abisara satraps sambangana* Hagen, *Jahrb. Nass. Ver. Nat.* l. p. 99. n. 166 (1897) (Simbang).

21. **Dicallaneura amabilis** spec. nov. (Pl. II. f. 21. ♂, 22. ♀).

♂. Upperside of thorax and abdomen olivaceous Vandyke-brown; head chestnut, white at eyes; palpus white, underside of thorax and abdomen, and legs creamy buff.

Wings, *upperside*, olivaceous Vandyke-brown; forewing blackish brown in outer two-thirds, with a broad yellow band from near costal edge to M^2, which is bisinuate distally.

Underside.——Forewing: chestnut, olive from M^2 to hinder edge; two bars in cell and a third beyond olive; a white median band from costal edge to M^2 separated by a transverse chestnut bar R^3—M^2 into two portions, outer portion tinged with yellow distally; four small transverse bars on disc from costal margin to M^1 silvery white; a white costal bar halfway to apex, and a white subapical dot, a yellowish rufous submarginal line from M^2 forward, gradually disappearing towards costal margin.——Hindwing: chestnut, washed with drab, excepting a number of chestnut bands and spots, situated as in the ♀ figured, but mostly rather heavier; median band extending from costal edge to R^3 slightly edged with white distally; three white spots SC^2—R^3 at or within chestnut discal spots; first and third submarginal spots (perhaps also the posterior ones, which are missing, the wing being torn) black centred with white.

♀. Body paler than in ♂, breast white. Wings, *upperside.*——Forewing at base and hindwing dark drab; forewing with a large white area, not extending to base, reaching to upper angle of cell and posteriorly to near apex of SM^2, almost rectangularly widening at R^3, then rounded; hindwing with a white elongate costal patch; fringe of hindwing spotted with white, white fringe at tip of tail especially conspicuous.

Underside rather paler than in ♂, especially the hindwing.——Forewing with a broad white band, sharply defined, its inner edge crossing M at point of origin of M^2, outer edge subrectangularly broken at R^3 as above, a costal bar of spots outside the band followed half-way to apex by a line of seven or six silvery spots; outside this line a pale continuous line; two white subapical dots.——Hindwing with white costal patch outside the oblique median band; interspaces between the pale chestnut markings whitish, much paler than in ♂; submarginal spots black, more or less edged with silvery white distally, spot in tail longest; admarginal interspaces ochraceous.

Length of forewing: ♂ 24 mm., ♀ 20 mm.

Hab. Owgarra, north of head of Aroa River, May 1903. One ♂, 2 ♀♀.

NYMPHALIDAE.

22. **Messaras mimicus** spec. nov. (Pl. III. f. 43. ♂).

♂. Upperside of body black-olive, slightly greenish, underside buff. Wings, *upperside*, black-olive, somewhat glossy, faintly greenish olive and purplish

when viewed obliquely; a buff-yellow band from R^3 of forewing beyond M^2 of hindwing.——Forewing: a postdiscal band, anteriorly curved costad, a little paler than the ground colour, hardly visible.——Hindwing: a discal band of black spots, followed by a postdiscal line and a broadish submarginal band of confluent lunules, of a deeper colour than the ground, the submarginal band well defined proximally, but scarcely separate from the marginal line, the interspace being nearly as deep in tint as the margin; no pale fringe-spots on either wing.

Underside washed with clay from base to median band; outer half much paler than above, with the markings more prominent: median band clay-colour. Forewing with a discal row of black patches, which are not so prominent as those of hindwing; on both wings, between this series and distal margin a whitish, slightly purplish line of halfmoons, followed by a much less broken line, which is very indistinct on forewing.

Length of forewing: 27 mm.

Hab. Upper Aroa River.

One ♂ only. This species is, on the upperside, a close mimic of *Mycalesis barbara* Grose-Smith, which is not a rare insect in the mountainous districts of British New Guinea, and was procured in some numbers by Mr. A. S. Meek. The specimens of *barbara* are slightly different, representing a southern subspecies, which we name:

23. **Mycalesis barbara mea** subsp. nov. (Pl. III. f. 42. ♂).

♂. Like *M. b. barbara* from German New Guinea, but the band of the forewing, above, shorter, the uppermost spot being more or less obsolete.

♀. This sex of *b. barbara* is not known. The ♀ of *b. mea* is paler than the ♂, the discal band is broader and, on the forewing, longer, reaching to R^2, as in the ♂ of *M. b. barbara*, the eye-spots are more prominent, and the submarginal lines of the hindwing more distinct. The underside is practically as in the ♂, but the whitish discal band is broader, and the interspace between the eye-spots and the distal margin wider.

Hab. Upper Aroa River.

A long series.

GEOMETRIDAE.

24. **Bordeta aroensis** spec. nov. (Pl. III. f. 37. ♀).

♀. Body black, collar and anterior coxae pale buff, abdomen orange, banded with black at the bases of the segments.

Wings, *upperside*, black.——Forewing: an elongate median spot, a subrotundate spot halfway to apex, and a tiny submarginal dot R^3—M^1 pale buff.——Hindwing: a large median area, extending from abdominal margin close to costal edge, and two spots outside it, orange, the upper spot small, connected with the second by some orange scales.

Underside like upper, the markings rather larger, the orange area of the hindwing extending to base and the two spots joined together.

Length of forewing: 22 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

Eubordeta gen. nov.

Similar to *Bordeta*, but both sexes with pectinated antennae, the pectinations very long in ♂.

Type: *E. eichhorni* spec. nov.

25. **Eubordeta meeki** spec. nov. (Pl. III. f. 27. ♂).

♂. Body blue-black, purplish; abdomen with a row of lateral crimson dots.

Wings, *upperside*, black, with a beautiful blue-purple flush in basal half or two-thirds.——Forewing: a white semitransparent median band cut by the black veins, stopping at SM^2; a short subapical crimson band.——Hindwing: a curved submarginal crimson band gradually narrowing behind.

Underside black, slightly purplish proximally.——Forewing: white band as above; a subapical metallic golden band from near costal margin beyond M^1, obtusely angulate at R^2.——Hindwing: a metallic golden band corresponding to the crimson one of upperside, but much narrower, anteriorly touching a crimson costal border which extends from this band to base; a second golden band from near anal angle obliquely across apex of cell, stopping at SC^2, cellular portion almost entirely white.

Length of forewing: 27 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

26. **Eubordeta eichhorni** spec. nov. (Pl. III. f. 32. ♂, 33. ♀).

♂ ♀. Body metallic green-blue. Wings black above and below, slightly shot with blue, fringe somewhat metallic, especially on hindwing.

Upperside with a large bright-red area on forewing extending from near base to near apex of cell, neither reaching costal nor hinder margin, rounded distally. Hindwing black, costal margin reddish from base beyond middle.

On *underside* the same red area, but less bright, fading into yellow behind; forewing, moreover, with yellow subapical band.——Hindwing with broad yellow band on outer disc extended to base along costal edge, becoming red proximally.

Length of forewing: 20 to 24 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

27. **Eubordeta miranda** spec. nov. (Pl. III. f. 34. ♂).

♂. Similar to *eichhorni* on the upperside of the wings, but the body only slightly green-blue, not glossy, the red area paler and anteriorly somewhat shorter and posteriorly longer, the black distal area being at SM^2 not quite so broad as the cell is at apex, the red costal spot of the hindwing, above, covered by the forewing, larger, and the underside different. The subapical band of the forewing, below, tapering behind; hindwing with two yellow bands, the external one only half the width of that found in *eichhorni*.

Length of forewing: 23 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

28. **Eubordeta hypocala** (Pl. III. f. 26. ♂).

Bordeta hypocala Rothschild, *Nov. Zool.* viii. p. 220. 405. t. 10. f. 9 (1902) (Aroa R.).

29. **Milionia aroensis** spec. nov. (Pl. III. f. 41. ♂).

♂. Upperside of body, legs, palpi, proximal areas of upperside of wings and of forewing below, and a costal and postcellular basal streak on underside of hindwing metallic green-blue. Rest of wings blue-black, the blue tint especially noticeable on upperside. Forewing with crimson band from middle of costa to hinder margin, reaching the latter just before angle, the band slightly paler below than above, becoming faintly yellowish posteriorly.

Length of forewing: 23 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

30. **Milionia ventralis** spec. nov. (Pl. III. f. 38. ♂).

♂ ♀. Body olive, with very little grey, except on upperside of abdomen, which is more distinctly glaucous green and feebly metallic: underside of abdomen yellow, except eighth segment and ♂-claspers.

Wings, *upperside*, blue-black; basal two-thirds of hindwing metallic green-blue: forewing with a nearly straight crimson band from distal third of costa a little beyond M^2, not quite reaching costal edge and not touching cell.

On *underside*, basal halves of both wings metallic green-blue; band of forewing paler than above.

Length of forewing: 19—22 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

A series.

31. **Milionia parva** spec. nov. (Pl. III. f. 30. ♀).

♀. Body olivaceous black, legs somewhat clayish, no metallic gloss.

Wings black above and below, in side-light shot with blue above in proximal half, not glossy. Forewing with broad orange band from costa to inner margin reaching this at angle, the band paler below.

Length of forewing, 17 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

32. **Milionia diva** spec. nov. (Pl. III. f. 39. ♂, 40. ♀)

♂. Body, legs, base of hindwing above and of forewing below, and two basal streaks on hindwing below glossy metallic green-blue. On upperside of forewing an orange band from before middle of costa to hinder margin near angle; this band contiguous with a triangular crimson area extending to near base; on underside the orange band is repeated, a little wider than above and proximally in cell shaded with crimson, the triangular crimson area being absent.

♀. Like ♂, but thorax and abdomen less glossy, forewing below without green-blue streak, and hindwing only with the subcostal streak; yellow and red

area of forewing, above, deeper excised and on underside continued anteriorly to base.

Length of forewing : ♂, 20 mm. ; ♀, 23 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

33. **Thalassodes nivestrata** (Pl. III. f. 36. ♂).

Thalassodes nivestrata Warren, *Nov. Zool.* x. p. 365. n. 45 (1903) (Aroa R.

34. **Chrysocraspeda rothschildi** (Pl. III. f. 31. ♂).

Chrysocraspeda rothschildi Warren, *l.c.* p. 366. n. 48 (1903) (Aroa R.).

35. **Boarmia aroensis** spec. nov. (Pl. III. f. 29. ♀).

♀. Body, upperside of hindwing and underside of both wings slate-colour.

Wings, *upperside*.——Forewing olivaceous tawny, densely marmorated and irrorated with slaty black, especially in basal two-thirds, a creamy patch beyond apex of cell from costa to M^1, traversed by a black line.——Hindwing with white discal band from costa to R^3.

Underside.——Forewing with large orange band beyond apex of cell from costa towards distal margin ; a few orange specks near distal edge of wing.

Length of forewing : 28 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

CHALCOSIIDAE.

36. **Chelura hemileuca** spec. nov. (Pl. III. f. 35. ♂).

♂. Body black, somewhat glossy.

Wings practically identical in colour above and below.——Forewing : a basal band black, an antemedian band and outer two-fifths of wings blackish, transparent.——Hindwing : apex blackish as on forewing, but this colour much more restricted.

Length of forewing : 24 mm.

Hab. Owgarra, north of head of Aroa River, May 1903.

ON A LARGE COLLECTION OF RHOPALOCERA FROM THE SHORES OF THE VICTORIA NYANZA.

By S. A. NEAVE, B.A., F.E.S., Magdalen College, Oxford.

(Plate I.)

THE following list of butterflies comprises the collection made by Mr. C. A. Wiggins from the end of October 1902 to the end of May 1903 on the shores of the Victoria Nyanza. The specimens were collected either by him or by native boys under his direction. Mr. Wiggins' headquarters were at Kisumu, 3800 ft., situated close to the terminus of the railway. The country around Kisumu is mostly open plain, without even scrub, but here and there patches of woodland whence come a large number of the Pierines. Mr. Wiggins collected from two localities south of Kisumu—the Kalachonyo Plain, a large open plain some ten miles south along the shore, 3750 ft., and in the Ugaia country, 3800 ft., which is on the other or south side of the Kavirondo Gulf, and seems to have been partly woodland. Nyangori is a few miles north and a little east of Kisumu, and is forest land, height 5000 ft. The Tiriki Hills are still farther north, about twenty miles from Kisumu, and covered with dense forest, height 5100 ft. Mr. Wiggins describes catching many of the Tiriki specimens "at one spot about ten yards square, by a river of shallow mud and water in the forest. To get to it I had to wade for two hundred yards up to my waist in a swamp of black mud." The Usemi specimens come from an open plain some fifteen miles west of Kisumu on the lake shore, height 3800 feet. Mr. Wiggins describes it as "open plain, no scrub except euphorbia trees round old villages."

Entebbe is 160 miles west of Kisumu, on the N.W. shore of the lake, upon some hills about 4000 ft. above the sea. The country is open plain, with here and there patches of dense forest.

The Toro specimens were captured by natives for Major Rattray, who gave them to Mr. Wiggins. They come from the Toro country, on the eastern slopes of the Ruwenzori Mountains, 7000 to 9000 feet., the country being apparently in large part woodland or forest.

In the following tabular statement * of species and numbers I have arranged the localities from the Ugaia country, on the east shore of the lake, along the north shore to Entebbe on the N.W. shore, and lastly the Toro country still farther west. As will be seen, the last two localities are the most distinctly western in character, lying as they do on the eastern outskirts of the great western Equatorial Forest. At the same time outlying patches of forest country, such as the Tiriki Hills, near the N.E. shore, produce very many western species, though also containing certain peculiar forms. It would therefore seem, though further evidence on the subject is required, that the escarpments east of the lake form a more distinct line of demarcation between eastern and western species than the lake itself.

* See pages 344—363.

For the help and assistance given me in the identification of the large number of species in the following tables I wish to express my best thanks to Mr. F. A. Heron, of the British Museum; Dr. K. Jordan, of the Zoological Museum, Tring; to Dr. F. A. Dixey, Wadham College, Oxford, for special help with the Pierines, and Mr. H. H. Druce with the Lycaenids. I should also like to express my thanks to Miss E. M. Bowdler Sharpe for kindly permitting me to make comparisons with her types; to Mr. Roland Trimen, F.R.S., for most valuable suggestions and criticisms; and to Professor E. B. Poulton, D.Sc., F.R.S., of the Hope Department, Oxford University Museum, for the most kind advice and suggestions throughout the production of the paper. I wish above all to express my sincere thanks to Mr. C. A. Wiggins for the manner in which he has answered all the numerous questions addressed to him, and at the same time to put on record my deep indebtedness to his remarkable energy as a naturalist.

It has not been possible, through lack of time, to give the sexes of every species, especially in cases of very large numbers, though I have endeavoured to do this wherever feasible.

In the order of species and in nomenclature I have followed in the main Prof. Chr. Aurivillius's standard work and Messrs. Rothschild and Jordan's papers on African butterflies.

DESCRIPTIONS OF NEW SPECIES.

Amongst the new species I have described are two or three kindly lent me by Mr. Roland Trimen. They were captured by Mr. C. W. Hobley, of Kisumu, in that district. I have also taken the opportunity of describing a new Acraea recently sent to the Hope Department by Mr. H. A. Byatt, from Angoniland. The other new species are all in the collection of Mr. Wiggins.

Unless otherwise stated, all types are in the Hope Department, Oxford University Museum.

NYMPHALIDAE.

DANAINAE.

1. Amauris dira spec. nov. (Pl. I. f. 1).

♂. Glossy black with white spots.

Upperside.——Forewing: in discoidal cell placed a little beyond the middle and nearer the posterior border, a very small spot. Below cell, between the first and second median nervules, both of which bound it, is a large rectangular spot. This is by far the largest and most striking spot in the wing. At the extremity of the cell and above it is a small spot. Just beyond this and beneath costa is another small spot, rather long and narrow. This spot is the first of a row of four spots which cross obliquely the apical portion of wing to distal margin. Of this row, the second is the largest, and the third, which is somewhat indefinite and may be evanescent, is close to it. The fourth is close to the distal margin, and lies just under the third radial nervule. Near apex are two small white spots, of which the one nearest the costa is the larger. There are also near the distal margin two more spots placed beneath the second and first median nervules

respectively. There are two or three minute evanescent dots close to the distal margin about its middle. Fringe black, with small white internervular patches throughout the middle of the distal margin.——Hindwing paler in colour than forewing. Crossing the cell near but not quite up to its base is a whitish patch ; beginning at the anterior border of the cell, it extends across its posterior border to the inner angle of the wing. In breadth it extends rather beyond half the length of cell. Just below costa beyond extremity of the cell is a spot, and there are three more small spots at the beginning of and following the course of the distal margin. There is also a fourth sometimes indefinite spot near the distal margin just beneath the third radial nervule. Fringe as in upper wing.

Underside very much as upperside, except that apex of forewing is paler in colour and all spots are more pronounced. The spot in the discoidal cell of the forewing has a small projection extending towards the costa. In the hindwing traces of more submarginal spots appear.

Expanse : 78—83 mm.

1 ♂ from Nyangori, 1 ♂ Tiriki.

Evidently near *A. hecate* Butler in shape, and *inferna* Butler in markings.

A. dira can be distinguished at once, however, by the minuteness of the spot in the cell of the forewing, and by the large spot between the first and second median nervules, which is more rectangular in shape than in *A. hecate*.

ACRAEINAE.

2. **Acraea cinerea** spec. nov. (Pl. 1. f. 16).

♂. *Upperside.*——Forewing vitreous in the middle, but dusted with dusky black scales along the costa, across the apex, and along the distal margin. This dusky border is of considerable breadth in the region of the apex, reaching to the end of the discoidal cell, but narrows rapidly along the distal margin, ceasing at the posterior angle.——Hindwing dusted thickly and uniformly with dusky black scales of the same colour as in the forewing. In the internervular spaces external to the cell, especially on each side of the discoidal nervule, a small number of scales of a brick-red colour. These are almost invisible in some specimens.

Underside much as on upperside, but the costa of the forewing for nearly two-thirds the length of the cell of a brick-red colour, this tint being more marked towards the base. On the hindwing this colour is distributed over the basal area ; it fills up the distal area of the cell, being bounded on its inner side by a black spot which is situated about the middle of the cell. The brick-red colour also fills up the spaces on each side of the submedian nervule for about half its length. In each of these spaces toward the base is a small black spot, and there is a row of three spots bounding the limit of the red area, the first one above the second median nervule. These spots are liable to differ considerably in intensity. Fringe uniformly black.

♀ differs in slightly larger size, and in the spotting of the hindwing being much heavier and visible from the upperside. There is an additional spot at the extremity of the cell, making the fourth of the row, and another at the base of the cell.

Expanse, ♂, 40 mm. ; ♀, 45 mm.

Six specimens from the Tiriki Hills, 5 ♂♂, 1 ♀.

This peculiar little species, with its long narrow wings, has apparently its nearest allies in forms like *A. iturina* and *A. quirinalis* of Grose-Smith.

3. **Acraea wigginsi** spec. nov. (Pl. I. f. 3).

♀. *Upperside.*——Forewing : The actual base of costa, a narrow line within cell above median nervure, space below median nervure and down to the submedian nervure are all of a dull red colour slightly dusted with dusky scales ; the base of wing and the rest of costa, apex and distal margin of the wing fuscous black. A large black spot in the discoidal cell near its extremity, another in an oblique line with this below median nervure, and a pair of confluent spots below the second median nervule in the same line. These latter bound the distal limit of the red area of the forewing. At the extremity of the cell in its upper part two confluent spots, and beyond these two more. These last two spots form the inner boundaries of a broad white subapical bar. This bar is divided into five parts by nervules which cross it. The fifth part, *i.e.* between third radial and first median nervules, is less well defined than the others. Along margin and upon it there are brownish spots in the internervular spaces, becoming paler as they approach the posterior angle. Below the submedian nervure is a black streak shading to reddish toward the posterior angle.——Hindwing has two black streaks at base, one being within the cell. Rest of wing red shading to orange, red toward margin, one spot in cell near its extremity and one just below it ; a row of these small spots beyond and above the extremity of the cell ; a narrow black border inclosing seven small pale yellow spots placed between the nervules.

Underside paler. Red colour of forewing more extensive, apex greyish with black nervules, and pale brown internervular streaks along the margins ; of these the one between last subcostal and first radial nervule is much the longest, running in as far as the white subapical bar.——Hindwing pale buff. At the base above the precostal and below the median nervures are bright pink patches. A ring of five patches of the same colour and somewhat rectangular shape surrounds the end of the cell, while the second and largest of these includes its extremity. Each of these patches is bounded both proximally and distally by black streaks ; the narrow and black festooned distal marginal band encloses eight semilunar spots of a creamy white colour. There is a slight invasion of black colour along the nervules, and between these projections are patches of a reddish brown colour. Abdomen greyish above, paler below ; the fringe black on forewing, grey on hindwing.

Expanse, 53 mm.

1 ♀, Tiriki Hills, March 20th, 1903.

1 ♀, Kisumu, end of May 1903.

This remarkable species is evidently related to *A. bomba* Grose-Smith, and it is possible that these specimens, being evidently mimetically associated with *A. encedon* L. and *L. chrysippus* L., may have a ♂ still more closely resembling *A. bomba*.

4. **Acraea doubledayi equatorialis** subsp. nov.

♂♀. The specimens present some points of distinction from either the typical or *axina* Westw. forms.

♂. The dusky suffusion at the base of both wings and the black border are both considerably reduced. The two small spots near the apical angle of the forewing, present in *doubledayi*, absent from *axina*, may or may not be present. The black internervular subapical and distal marginal streaks (2—3 in *doubledayi*, 3—4 in *axina*) are always five in number, with sometimes traces of a sixth. These characters apply to both sexes. The ♀ also differs in its remarkably pale colour.

Of 22 ♀♀, 10 have white hindwings with greyish white forewings, and the rest are considerably paler than southern forms, being mostly more or less suffused with white. The white bar in the forewing resembles that in the *axina* form.

Taking all the characters into consideration, this may be looked upon as an extreme form of *axina*, or rather that *axina* is intermediate between the typical *doubledayi* and this form from the Victoria Nyanza.

5. **Acraea mystica** spec. nov.

♂. Brick-red and pink with black markings.

Upperside.——Forewing: ground-colour brick-red with an orange tint, a narrow, almost linear, black margin, even at apex. The following spots: one within the cell, a little beyond its middle; one at the upper part of extremity of cell. Beyond cell an oblique row of five spots, of which the last, situated below third radial nervule, is separated from the rest. Below extremity of cell, two spots above and below second median nervule, and nearer base a small spot below median nervure. A pale subapical bar beyond oblique row of spots. Crossing apex and along distal margin five black subapical and submarginal internervular streaks, of which the lowest is paired.——Hindwing: ground-colour bright pink. Heavily black at base, with a black border of medium breadth slightly serrated inwardly. The following spots all rather reduced: two beneath costa, two within cell, one at upper part of extremity of cell, one near base below median nervure. A highly irregular discal row of rather small spots crosses wing, eight or nine in number, of which the third and fifth are nearest the base of the wing.

Underside.——Paler, spotting much as on upperside. Forewing has light brown subapical and submarginal streaks. Hindwing has fenestrated black margin, enclosing seven semilunar spots of a pale greyish colour. Abdomen white.

Expanse, 63 mm.

One rather worn ♂ from Kisumu, March 1903.

Closely allied to *A. sykesi* Sharpe and *A. doubledayi* Guérin in character of spotting and marking, but differs in much larger size and brilliance of colour, which must be very marked in a fresh specimen.

6. **Acraea clarei** spec. nov. (Pl. I. f. 4).

♂♀. Red and rosy pink with black markings and borders.

♂. *Upperside.*——Forewing brick-red, shading to black from extremity of cell

to apex. Slightly dusky at base. In the discoidal cell rather beyond its middle an elongate spot somewhat variable in size. At extremity of cell at its upper part two rather confluent spots. Parallel with the end of cell and just beyond it an oblique row of five spots more or less confluent into a bar. Below the cell, nearly in a line with its extremity, are two spots, one on each side of the second median nervule. Nearer the base and below the median nervure is another spot. The black border along the costa is linear. The subapical portion of the wing is a semitransparent grey colour, shading to black at apex, being interrupted, however, by four internervular reddish brown streaks which cross the apex obliquely. The fourth reaches and touches the distal margin between the first median and third nervules, being bounded inwardly by a submarginal spot. There are similar submarginal spots below the first and second median nervules.—Hindwing a brilliant rosy pink, dusky at base, shading to a brick-red toward the margins. Two spots beneath the costa. Two spots in discoidal cell, the outer one the larger; one at the upper part of extremity of cell, and one below median nervure. An irregular row of nine spots crosses the discal area of the wings, which are alternately nearer and farther from the base. All or any of these spots on hindwing may be evanescent and only show by transparency from the underside. The festooned border of the distal margin is also visible in this way. The margin is black, but of variable width.

Underside paler than upperside. Apex, instead of being black, is yellowish, with black nervules and ochreous brown internervular streaks. Spotting of forewing *less* and that on hindwing *more* pronounced than on upperside. Hindwing has a festooned black margin inclosing seven creamy yellow spots, with a trace of an eighth spot at the anal angle. Base dusted with bright pink scales, and the internervular spaces along the distal and inner margins have slight submarginal streaks of the same colour.

Fringe black, except on the inner margins of both wings, where it is yellowish.

Abdomen reddish brown above, shading to whitish beneath.

♀ much like the ♂, duller in colour, with spotting and borders, and suffusion of black at base of the wings heavier. Internervular streaks across apex of forewing whitish. Rosy pink of hindwing in ♂ replaced by brownish ochre.

Abdomen black above, spotted with whitish beneath.

Expanse: 58 mm.

Tiriki Hills, March 18th, 1903, 1 ♂. Type.

Nyangori, November 1—8, 1902, 1 ♂; March 25th, 1903, 1 ♀.

Entebbe, April 1—12, 1903. 2 ♂♂, 2 ♀♀.

This beautiful species is allied to *A. pseudegina* Westw., but the ♂♂ especially are much less sombre in colour.

7. **Acraea byatti** spec. nov. (Pl. I. f. 17).

♂. Allied to *serena* Fabr., *ventura* Hew. and *excelsior* Sharpe.

Orange scarlet with black borders.

Upperside.—Forewing: black at the base; costal margin extending into the upper part of cell, apex and distal margin all black. A subapical orange-red bar, divided into four portions, of which the one beneath the costa is paler in colour, lies in the black apical area. This black area just before the extremity of the cell leaves the subcostal nervure, turns at right angles for a short distance toward the inner

margin, and includes the greater part of extremity of cell, then turning again to its previous direction. Marginal border black and heavy, narrowing somewhat as it approaches posterior angle. All central portion of wing brilliant orange-scarlet. A small black streak runs from the base beneath submedian nervure nearly half-way to posterior angle.——Hindwing: base dusky black, including nearly half cell; central portion of wing orange-scarlet, shading to yellow toward inner margin, which is paler near the base. A black spot at the upper part of extremity of cell. Distal marginal border broad and black, but does not follow shape of wing, as its inner edge makes nearly a right angle in the space between last subcostal and radial nervules.

Underside.——Forewing: no black at the base, central red area as on upperside but rather duller in colour. Costa dusky yellow, apical bar buff-colour, apex greyish yellow, with black nervules and red-brown internervular streaks.——Hindwing: basal and discal areas pale buff. A black spot at base of cell, another at upper part of its extremity. A red patch above the costa surrounding the precostal nervure. A red streak above extremity of cell, bounded proximally by a black streak and distally by three confluent spots. Filling space between median and submedian nervures for two-thirds of distance to distal marginal border is a red streak, with two spots situated in its middle, and bounded by a row of four black spots, extending from median nervure to distal margin, of which the central two are confluent. Between this red streak and distal margin a small black streak along base of internal nervure and three small spots. The broad distal marginal border the same shape as the upperside, and edged internally by a narrow black line; the nervules are black edged on each side with grey, this being in its turn outlined with black, drawn to a point at the edge of the wing. The intervening spaces filled with brick-red streaks, widening out at edge of wing into nearly triangular patches of a pale yellow colour.

Fringe, forewing black, hindwing yellowish.

Expanse, 43 mm.

3 ♂♂ from Dedza, Angoniland.

Collected in April and June 1903 by H. A. Byatt, B.A., of Lincoln College, Oxford, after whom the species is named.

8. **Acraea oreas** Sharpe f. **albimaculata** nov.f.

This form of *oreas* only differs from typical specimens in having white spotted forewings.

4 ♂♂, Tiriki Hills, March 1903.

NYMPHALINAE.

9. **Neptis conspicua** spec. nov. (Pl. I. f. 15).

♂♀. Brownish black, with white bands.

Upperside.——Forewing: beyond the cell a slightly curved white band, extending from costa to second median nervule, divided into six spaces by crossing nervules; the space immediately beneath the costa very small. On inner margin a little before the end of band a semicircular spot, crossed by submedian nervure.

A very faint discal streak, lighter than the ground-colour, follows the outer edge of the band. Along distal margin a triple row of white lines. Near costa the inner row broadens out somewhat.——Hindwing: a broad white stripe, continuous with the semicircular patch on inner margin of forewing, crosses the central portion of the wing; divided into seven portions by crossing nervures. A faint discal and three marginal stripes as in forewing. Distal margin of both wings serrated; fringe black, with white internervular patches.

Underside: ground-colour paler. All white markings much more pronounced and better defined. Additional markings are: on forewing, costa white at base; near extremity of cell two rather faint transverse whitish streaks; on hindwing, costa to a little before its middle broadly edged with white; two whitish streaks cross base of wing.

Expanse, 47 mm.

Nyangori, 1 ♂, 1 ♀, November and December 1902.

Entebbe, 1 ♂, April 1903.

Evidently closely allied to *N. agatha* Cram., but all the white markings more definite, the bars and marginal streaks showing no tendency to be broken up into spots. No spots in the cell.

10. **Neptis clarei** spec. nov. (Pl. I. f. 2).

♂ ♀. Black, with white markings.

Upperside.——Forewing black. Beyond extremity of cell two confluent elongated white spots, with a faint trace of a third above first radial nervule, forming a short broad somewhat oblique bar. Below, and somewhat beyond extremity of this bar, are two more white spots below the third radial and first median nervules respectively. Upon inner margin a little before these spots, a semicircular white spot crossed by submedian nervure. External to bar and spots, and following their course, a very faint streak. Along distal margin three white linear stripes, of which the inner is best defined, especially at apex, and the outer very faint.——Hindwing: a broad white bar continuous with the inner marginal semicircular mark on forewing, divided into eight parts by traversing nervules, crosses to inner margin. One pale discal streak and three marginal ones, as in forewing.

Underside.——Ground-colour paler, and white markings more extensive. Forewing has two streaks across cell near its extremity; bar extends to subcostal nervure.——Hindwing: costa broadly white at base. Two white streaks cross the base of the wing. Distal margin slightly denticulated.

Fringe black with white internervular patches.

Expanse, 55 mm.

1 ♂, Entebbe, April 1903.

Nearest to *N. strigata* Auriv., from which it differs in absence of white patch in cell of forewing, in smaller size of bar beyond extremity of cell, and in the bar of hindwing being narrower.

11. **Neptis ochracea** spec. nov. (Pl. I. f. 5).

♂. Dusky brown with ochre-yellow markings.

Upperside.——Forewing dusky brown with ochreous yellow subapical bar divided into three parts, the one below the costa being very minute.

Beyond the cell another broad bar sloping obliquely back toward the base of the wing. This bar begins below the third radial nervule, and extends to inner margin. It consists of four parts, the third being invaded by some of the dark colour from distal margin. Along hindmargin are traces of black internervular streaks.——Hindwing has a broad ochreous yellow band crossing it to inner margin, being a continuation of the bar on the forewing. Base dusky. Distal marginal band is broader than on forewing, and has the black internervular streaks proportionately longer.

Underside is much paler; the bars of a pale buff colour, which is suffused to a brownish yellow over the rest of the wings. The black distal marginal internervular streaks remain in both wings.

Expanse, 49 mm.

1 ♂, Entebbe, April 9th, 1903.

This species is allied to *N. exalbuca* Karsch and *N. woodwardi* Sharpe, resembling the latter in colour and the former in distribution of markings.

12. **Pseudacraea hobleyi** spec. nov.

♂. Nearly allied to *kuenowi* Dew. Band on *upperside* of forewing paler in colour, not widened out immediately beneath costa and only just invades extremity of cell. Band is at its widest between the third radial and first median nervules, below which it again becomes somewhat narrower. This gives it almost the shape of a right angle. There are four black spots in the cell and one rather indefinite one about the middle of its extremity. One spot below median nervure near base. Rest of wing the same blackish brown as in *kuenowi*. There are black internervular streaks in apical region, and between submedian nervure and second median nervule is a paired internervular streak crossing orange-yellow band into median area of wing.——Hindwing red-brown at base. Across its middle is a white bar attaining its greatest breadth at inner margin, narrowing as it approaches costa, which it does not quite reach, differing in this point from *kuenowi*. Three black spots in the cell (the largest at the base), and one at the extremity of the cell. This and the outer of two spots placed just above the extremity of the cell are the only spots situated in white area. Distal margin brownish black with well-marked internervular streaks invading white area. As on forewing, the streak between submedian nervure and second median nervule is very long and paired; the upper of these ends at the base of the wing in a spot. No ochreous colour at the anal angle.

Underside much as in upperside.——On hindwing a large spot on each side of precostal nervure. The inner of these with the spot at the base of the cell in each wing has a white dot on it. The white band more suffused over the distal margin than in *kuenowi*. Abdomen reddish ochreous, black on dorsal surface, spotted with black laterally.

Expanse: 71 mm.

2 ♂♂, Entebbe, April 1903.

A ♀ of this species has been kindly lent me by Mr. Roland Trimen. It was captured by Mr. Hobley of Kisumu, at Nyangori, and the species has been named after him. It differs in slightly larger size and in greater width of orange bar of forewing.

13. **Pseudacraea tirikensis** spec. nov. (Pl. I. f. 14).

Dusky black with white markings.

Upperside.——Forewing dusky black, brownish black towards apex. A black spot at base of cell, two more within it. A black spot beneath median nervure. Just beyond extremity of cell an oblique white bar crosses subapical portion of wing. This bar begins at costa and extends to halfway between first and second median nervules. In one specimen this bar slightly invades angle at upper extremity of cell. In middle of dusky distal margin is a semicircular patch dusted with white scales. This patch sometimes extends up to the extremity of the white bar. Black internervular streaks in apical region. Two such streaks between submedian nervure and second median nervule.——Hindwing dusky brown, slightly redder-brown at base, with a broad white bar crossing discal area of wing, widening as it approaches inner margin. One spot at base of cell with a white dot upon it, two within cell, and one at its extremity. One near base below median nervule. Along inner margin and at anal angle a line of ochreous colour. Black internervular streaks as in forewing.

Underside.——In forewing a small additional spot **near**, and another **at** extremity of cell. Apex lightly dusted with ochreous.——In hindwing across base a triangular patch of a rich red brown, which does not quite reach extremity of cell. Four additional black spots in internervular spaces immediately above cell.

Expanse: 73 mm.

One specimen (? ♀) of this species differs in the white bar of forewing being heavier and broader. It invades angle at upper part of extremity of cell and reaches down to the second median nervule. On the hindwing white discal bar does not extend so near anal angle, and there is no ochreous colour on distal margin except a trace on underside at anal angle.

Fringe black except on the inner margin of hindwing, where it is ochreous. Abdomen black above, reddish ochreous with black spots beneath.

Expanse: 80 mm.

2 ♂♂, Tiriki; 1 ♀, Toro.

Mr. Wiggins has since sent another ♂ of this species from Nyangori, July 6—18, 1903.

14. **Pseudacraea terra** spec. nov.

Allied to *eurytus* Linn.

♀♂. Dusky brown, heavily marked with dull ochreous yellow.

Upperside.——Forewing: Base of costal margin down to median nervure, apex, and distal margin dusky brown, with darker internervular streaks in apical region. A black spot with a white dot upon it at base of cell, and two more just before middle of cell. Beyond cell a broad, subapical, oblique, rectangular, ochreous yellow bar, divided into five parts by nervules traversing it. This bar extends from costa to midway between third radial and first median nervules. Below the median nervure near base a black spot, which marks inner boundary of a broad ochreous yellow area, which starts below first median nervule and widens rapidly as it approaches distal margin.——Hindwing at base of costa dusky brown. At

base of cell a large black spot with a white dot upon it. Two spots in cell, one at its extremity and two minute ones just above its extremity. Distal margin dusky brown, narrowing as it approaches anal angle. Rest of wing ochreous yellow with strongly marked dark internervular streaks. There are two such streaks between submedian and median nervures, of which the outer ends in a spot near base of wing.

Underside very like upperside, but on hindwing two additional spots above the basal portion of cell.

Expanse : 81 mm.

This species is an extraordinarily close mimic of *Planema tellus* Auriv.

1 ♀ in British Museum from Uganda, *type*. 1 ♂, Entebbe, Uganda.

15. **Pseudacraea obscura** spec. nov.

♂♀. Dusky brown dusted with lighter brown.

Upperside.——Forewing dusky brown. One black spot at base, two in the middle, one near and one at extremity of cell. Beyond cell a narrow oblique subapical bar of a yellowish buff colour, which extends from subcostal nervure to half-way between third radial and first median nervules. Upon inner margin, and extending just above second median nervule, is a somewhat triangular area dusted with ochreous red scales. Dark internervular streaks in apical region, with a double streak between submedian nervure and second median nervule.—— Hindwing dusky brown, suffused with redder brown, especially towards anal angle. Spotting as on forewing, with two additional spots above extremity of cell. Dark internervular streaks on distal margin.

Underside paler throughout than upperside. Hindwing a uniform ochreous brown, with two additional spots above base of cell.

♀. Larger, generally paler in colour. Subapical bar of forewing rather larger and whitish in colour. Ochreous patch extending from distal margin paler than in ♂, but more pronounced, and filling up the angle formed by the median nervure and first median nervule. The spots in cell of forewing smaller.

Expanse : ♂, 72 mm. ; ♀, 81 mm.

1 ♂, 1 ♀, Entebbe, Uganda, April 1903.

Apparently nearest to *P. striata* Butler.

16. **Euphaedra paradoxa** spec. nov.

♀. Dull red-brown with glossy greenish black margin.

Upperside.——Forewing glossy greenish black with a narrow dirty white oblique subapical bar extending from subcostal nervule to near distal margin half-way between third radial and first median nervules. Starting from inner margin from base to near posterior angle is a patch of dull red-brown with a slight green tint running up to and invading base of cell and angle between median nervure and second median nervule.——Hindwing : the same dull red-brown colour, with a narrow uniform distal margin of glossy greenish black, bearing internervular spots of paler green.

Underside : a dull pale olive-green, paler toward margins.——Forewing :

costa buff-coloured at base and again toward apex. Subapical bar white.—— Hindwing: basal and middle portions darker green, considerably paler in discal area. A row of very faint greenish submarginal spots in internervular spaces of distal margin. Inner margin and internal and submedian nervures covered with buff-coloured hairs. Fringe blackish, dotted with white, especially at apex of forewing.

Expanse: 62 mm.

1 ♀, Ugaia, South Kavirondo, January 1903.

This remarkable little species resembles to some extent *E. elens* Drury as regards its upperside, while its underside seems to bring it nearer forms like *E. uganda* Auriv.

17. **Diestogyna hobleyi** spec. nov.

Dusky olive-brown with yellow markings.

Upperside.——Forewing dusky olive-brown, shaded with black scales. Crossing middle of discoidal cell a pair of black streaks outlined in yellow; at extremity of cell a similar pair. Beyond extremity of cell an oblique, yellow, rather narrow bar extending from subcostal nervure to second median nervule. Nearer the apex and forming the other side of a triangle of which the costa is the base is a row of five white spots, the first above subcostal nervure, the last between third radial and first median nervules. Dark internervular streaks join the two sides of the triangle. Parallel with distal margin from a point close to apex to posterior angle is a dusky black submarginal stripe interrupted somewhat by crossing nervules near apex.——Hindwing: Base to just beyond end of cell, inner and distal margins dusky olive-brown. Dark linear shading at extremity of cell. A large patch of an ochreous buff colour fills the discal half of the wing nearer costa. A double row forming irregular dusky streaks, of which the outer is best defined, crosses the outer discal portion of the wing.

Fringe olive-brown, a white spot at apex and posterior angle of forewing, a few small white dots on distal marginal fringe, internervular on forewing, on extremity of nervules on hindwing.

Underside.——Chestnut-brown, with costa, apex, posterior angle of forewing and whole of hindwing except distal margin shaded with grey; oblique bar on forewing white. Markings of upperside where present paler. Inner margin of forewing pale olive-brown. On hindwing an irregular line crosses basal portion just beyond extremity of cell, and a row of seven small white spots crosses discal area.

Expanse: 59 mm.

1 ♀ (?) captured by Mr. Hobley at Kisumu, no data, kindly lent me for description by Mr. Roland Trimen.

A single specimen also in British Museum from the Congo, rather smaller and with subapical yellow bar smaller and less defined.

18. **Charaxes eudoxus mechowi** Rothsch.

1 ♂, Tiriki Hills, March 1903.

Upperside.——Differs from *eud. eudoxus* in all markings of both wings being

of a darker red-brown colour; in basal red-brown area of forewing being better defined and more extensive, reaching to the extremity of cell. The fulvous discal band common to both wings is much reduced in this variety on forewing, and is broken up above second median nervule into five internervular spots, each much smaller than the last. The *underside* is more sombre in colour, and chiefly distinguished by the great reduction of silvery markings so characteristic of *eudoxus*. The silver- and slate-coloured pencillings on the apex of the forewing are also extremely faint. In another specimen kindly lent me by Mr. Roland Trimen, captured at Kamwezi by Mr. Hobley, the silvery marking of the underside has entirely disappeared, and is only partly replaced by a dull slate-colour. The markings on the forewing are entirely absent. Both these specimens are rather larger and broader in the wings than the single specimen of *eud. eudoxus* in the Hope Department.

Expanse: 80 mm., as compared with 77.

LYCAENIDAE.

(Pl. I. f. 19.)

19. **Telipna nyanza** spec. nov.

Light orange-red with black borders.

♀. *Upperside.*——Forewing light orange-red with black costa, apex and distal margin, which narrows as it approaches the posterior angle. Parallel with the extremity of the cell, but beyond it and within the black apical area is an oblique row comprising three white spots, the first of which is immediately beneath costa.——Hindwing light orange-red with black distal marginal border extending half-way up the inner margin, with five white internervular spots upon it. Fringe black, with white internervular patches along distal margin.

Underside.——Forewing: ground-colour rather paler, black apex much reduced. In black costal and apical border, extending from costa to the junctnre of apex and distal margin, are twelve silvery white spots. The row of three spots visible on the upperside is well marked, and between the middle of the three spots and apex is an additional white spot. Black distal marginal border almost linear.——Hindwing: ground-colour as on forewing. Upon costa above extremity of cell a black streak with a white streak on either side, with a smaller black streak nearer the base. Distal margin black dotted with two rows of internervular silvery white spots: the outer row seven in number, the inner nine. Of the inner row, the third, fourth and fifth spots lie between the black margin and the orange-yellow ground-colour. The spots of the outer row somewhat triangular in shape. Fringe as on upperside.

Expanse: 53 mm.

1 ♀ from Entebbe, April 10th, 1903.

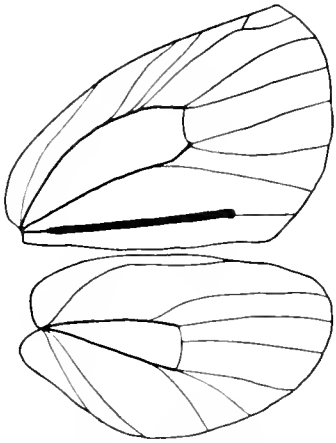
Allied to *T. aeruea* Dbl. and Hew., from which it differs in the smaller size of the white bar, and much greater extent of the orange-red areas on both upper- and undersides.

Poultonia gen. nov.

Head short and broad; eyes smooth; palpi very short, slightly convergent at tips. Antennae short, about one-third the length of costal margin, with gradually formed club. Thorax robust, almost Hesperiad in appearance. Wings short and broad. Closing discocellular nervule scarcely visible, especially on upperside, producing appearance of open cell. Well-marked brand in ♂ on submedian nervure from base for two-thirds of its length.

Forelegs well developed and smooth.

Allied to *Durbania* Trim. in shape of wings, and to *Teriomima* Kirby in coloration. Differs from both in venation.



Neuration of *Poultonia*.

Type: *P. ochrascens* spec. nov.

The species figured by H. Grose-Smith as *Durbania barca*, Rhop. Exotica iii. t. 27. f. 3. 4 (1891) from South Africa, also evidently belongs to this genus.

I have much pleasure in dedicating this genus to Professor E. B. Poulton, D.Sc., F.R.S., of the Hope Department, Oxford University Museum.

20. **Poultonia ochrascens** spec. nov. (Pl. I. f. 13).

♂ ♀. Ochreous with black border.

Upperside.——Forewing: ochreous yellow. Costa ochreous at base; narrow black costal margin widening at apex and narrowing gradually as it follows distal margin to posterior angle, where it ceases. Border on distal margin slightly inwardly denticulate at nervules. An elongate ochreous band on submedian nervure from base for two-thirds of its length.——Hindwing: ochreous, with black distal marginal border, broadest at apex, narrowing as it approaches anal angle. The discal row of pale spots of underside faintly visible.

Underside.——Forewing: black margins of upperside replaced by brownish grey, and nervures outlined in same colour. Costal margin broad throughout, from base scattered with seven or eight small pale, rather indefinite, spots.——Hindwing uniformly brownish grey with a few whitish spots. Of these the

most marked are one above cell near base, two within cell, one near middle and the other near extremity. Two similar spots situated below cell. A discal row semicircular in shape of eight better defined spots from costa to submedian nervure, the last being slightly out of line.

Fringe greyish, especially marked on upperside. Palpi ochreous; thorax ochreous above, black with ochreous spots beneath; abdomen ochreous throughout.

Expanse, 35 mm.

1 ♂, Usemi, May 1—7, 1903.

Mr. Wiggins has subsequently sent 2 ♂♂, 1 ♀, of this species from Kisumu, August 1—15, 1903. The ♀ differs from the ♂ in its slightly larger size, paler colour, and absence of brand.

Evidently allied to *Poultonia barca* Grose-Smith, *l.c.*, from which it differs in the narrower and better defined black borders of upperside and in greyer colour and presence of pale spots on underside.

21. **Mimacraea poultoni** spec. nov. (Pl. I. f. 18.)

♂. Brownish black with orange-red markings.

Upperside.——Forewing brownish black. An oblique narrow bar crosses subapical portion of wing. It is yellow in colour, faintly outlined with orange, and divided into five or six portions by intersecting nervules. Starting from subcostal nervure, it nearly reaches third radial nervule. Starting from inner margin is a broad orange area running up as far as third radial nervule, narrowing somewhat as it approaches it.——Hindwing dusky black at base. A broad orange band crosses middle portion of wing from costa to inner margin, just including extremity of cell. This band varies from pale yellow to orange in colour, except at its costal end. In one specimen this band is markedly broader and the orange colour extends along nervules into the distal marginal border. A broad black distal marginal band, with a rather irregular inner edge.

Underside.——Forewing: costa dusted with yellowish scales. Orange-red colour generally extends up to subcostal nervure, but three black spots remain in cell, one at its extremity and one near base below median nervure. The spotting is, however, extremely variable. The black apex of forewing and distal margins of both wings have nervules and triangular internervular streaks dusted with yellow. Base and inner margin of hindwing are dusky yellow covered with a variable number of spots. There are generally three spots below costa, two within cell and one at its extremity, and a triangular patch of three spots below median nervules. There may also be small spots in the internervular spaces around the extremity of the cell. The median band is narrower than on upperside, and is of a buff yellow colour.

Expanse, 54 mm.

2 ♂♂, Nyangori, March 1903.

1 ♂, Entebbe, April 1903.

This beautiful Aeraeine mimic is evidently allied to *M. krausi* Dewitz, from which it differs in the distribution of the orange-red colour especially on the forewing. I have much pleasure in dedicating it to Professor Poulton.

22. **Aphneus drucei** spec. nov. (Pl. I. f. 6.)

♂. Fuscous, with basal area of both wings glossy blue. White subapical spots in forewing.

Allied to *A. hutchinsoni* Trim.

Upperside.——Forewing: blue area occupies base of wing, cell for two-thirds of its length, and whole of area between second median nervule and inner margin, with the exception of a moderate border near the posterior angle. At extremity of cell a fair-sized *circular* white spot. There is a subapical and submarginal row of five white spots, of which the third is considerably and fourth slightly out of line and nearer the distal margin. Costa from base to about extremity of cell broadly ferruginous. A well-marked stripe of the same colour accompanies distal margin, interrupted by fuscous nervules. Actual margin black and linear, with a black and white fringe.——Hindwing: blue occupies cellular and discal area of wing. Costal margin fuscous, inner margin greyish. Distal margin as on forewing, ferruginous colour widening at anal angle with trace of orange spots. Anal angle apparently bears two tails, the outer smaller and black, the larger and inner one ferruginous at base, but anal angle is wanting in one wing and damaged in the other.

Underside of a buff-brown colour covered with silver spots outlined in dark ferruginous.——Forewing has the following silver spots and markings: Touching costal border, a small oval one at base above subcostal nervure, two elongated spots, one crossing middle of cell to median nervure, another broader one at extremity of cell, and a shorter one nearly halfway between last mentioned and apex. Near apex, but not touching costa, two much smaller confluent spots. A small spot within discoidal cell at its base. Three somewhat confluent hindmarginal spots coincident with but larger than the three lowest spots of the row on the upperside. Upon inner margin a rather indefinite large spot somewhat triangular in shape, its apex just reaching second median nervule and not at all confluent with the markings above it.——Hindwing with the following silver spots: at base within precostal nervure a rather small semicircular spot; between costal and subcostal nervures a fair-sized rather oval spot; within cell at base a very small circular spot. Upon inner margin a small elongate spot. At extremity of cell a large and irregularly circular spot, a very small one below it, and a large irregular one touching costal margin above it. Beyond and around extremity of cell an irregular row of five spots, the first two very small, the third composed of three confluent spots of which the middle one is largest; the fourth considerably out of line and nearer anal angle, the fifth elongated and irregular in shape, touching inner margin. Below this last another irregular elongated streak. At junction of inner margin and anal angle a ferruginous streak outlined near margin with orange. Distal margins of both wings narrowly edged with black, with a black and white fringe.

Expanse, 34 mm.

One damaged ♂ from Mwanza, Unyamwezi, German E. Africa.

The main points of difference between this species and *A. hutchinsoni* Trim. are the ferruginous costa and distal marginal markings on upperside and the absence of a ferruginous streak following distal margin on underside. Also

the general reduction in size and somewhat different arrangement of spots on underside.

I have much pleasure in dedicating this species to Mr. H. H. Druce, who has been kind enough to give me his opinion upon it.

23. **Lycaenesthes hobleyi** spec. nov.

♂. *Upperside:* dull glossy purple. Black margins. Fringe buff-coloured. At anal angle of hindwing trace of two black eye-spots.

Underside: pale grey brown with transverse striae of the same colour, red-edged on both sides, narrowly edged again with paler brown: all striae rather narrow.——Forewing: a terminal discocellular stria. A discal stria from subcostal nervure to submedian nervure, broken at second median nervule into two very unequal portions, the lower one being markedly nearer the base of the wing. A narrow submarginal streak of a slightly darker brown than ground-colour follows course of distal margin. Base of costa and distal margin very narrowly orange-red.——Hindwing: terminal discocellular, and discal striae as on forewing. Discal stria reaches to inner margin. A subcostal red spot faintly outlined with a paler brown than ground-colour above cell near middle. A similar spot within cell upon median nervure. A smaller red spot on inner margin near base. Dark submarginal streak and narrow orange-red line on distal margin as on forewing.

At anal angle two eye-spots, inwardly red, outwardly black, dotted with glistening blue scales. Two short brownish tails.

Expanse, 27 mm.

2 ♂♂, no locality, but presumably east or north-east of Victoria Nyanza; collected by Mr. Hobley and lent me by Mr. Roland Trimen.

Apparently not very nearly allied to any known species, but resembles *L. ligures* Hew. in distribution of markings.

24. **Catochrysops nandensis** spec. nov. (Pl. I. f. 12).

♂. *Upperside:* dusky brown with glossy blue shading. On distal margin of forewing five eye-spots. All these rather indefinite except one between first and second median nervules which is black inwardly marked with bright orange. A trace of orange on spot immediately above it. Fringe white with patches of dusky brown at extremity of nervules.

Underside: pale brown with slightly darker transverse striae clearly edged with white on both sides.——Forewing: a terminal discocellular stria. A row of six discal striae from subcostal to submedian nervure. Between discal row and distal margin two parallel rows of seven white marks the shape of arrow-heads internervular in position. Distal marginal border linear and a slightly darker brown than ground-colour, inwardly accompanied by seven narrow internervular white streaks.——Hindwing has terminal discocellular and discal striae as in forewing, the latter more irregular in shape. The following black spots surrounded by clear white rings: two beneath costa; one within cell about middle, touching median nervure; two on inner margin. Other markings as

on forewing, except that the two rows of arrow-shaped white markings are somewhat confused together, and the fourth, fifth and sixth of the inner row are specially large. A well-marked orange spot between first and second median nervules, with a black pupil placed distally, the pupil partially outlined with glistening blue scales. A trace of orange colour at anal angle. Fringe as on upperside, except dusky brown patches more pronounced. Abdomen dusky black above, paler beneath, with trace of orange at apex.

Expanse, 27 mm.

1 ♂, Nyangori, March 26th, 1903.

Allied to *C. malathana* Boisd. = *asopus* Hopff. Differs in blue sheen on upperside and in distinctness and distribution of markings on underside.

25. **Castalius usemia** spec. nov. (Pl. I. f. 11).

♂♀. White with black margin.

Upperside.——Forewing white. A wide basal black suffusion well defined externally. Costa and distal margin and outer part of discal area suffused with black. At extremity of cell a denticulate black projection from costal margin invades white area. Black outer discal area and apical border isolate a somewhat elongated white spot, smaller than in *C. gregori* Butler. Smaller white spots may be present both above and below this spot. Fused discal and distal marginal black border is broader below first median nervule than above it.—— Hindwing black at base, with external edge of black suffusion exactly coinciding with that of forewing, thus differing markedly from *C. gregori*. Discal and distal marginal black fused, projecting inwardly along costa at apex, inclosing traces of white dots toward discal area. On distal margin, especially at anal angle, a narrow interrupted white line. Small black tail tipped with white at second median nervule. Fringe of both wings grey.

Underside.——Forewing : black markings broken up into streaks and dots. Across base a black streak from costa before middle, and parallel and close to it a similar shorter streak starting from about middle of interior of cell ; This latter streak is sometimes continuous with, but generally separated from, a short transverse marking in the shape of a triangle with its base on the costa and its apex at the origin of the third radial nervule. Between these two points the marking crosses the apex of the cell. An irregular but well-marked discal transverse streak, emitting a well-marked projection outward between radial nervules, interrupted at first median nervule and continuing to inner margin nearer base of wing. A submarginal black streak becoming fused with discal streak about first median nervule. A distal marginal row of six small black spots bounded by a black edging line.——Hindwing : two short black streaks across base ; outermost and longest coinciding with outer one of forewing. Discal stripe widely interrupted between second subcostal and radial nervules. Submarginal stripe somewhat irregular, and becoming fused with discal at third radial nervule. Six spots with a black margin as in forewing, but four spots nearest anal angle outlined in glistening blue ; on inner margin, a little beyond middle, a small black rectangular spot.

Abdomen striped black and white above, white below.

Expanse, 26 mm.

Ugaia, 2 ♂♂; Nyangori, November 1—8, 1 ♂; Usemi, May 1—7, 1 ♂ 2 ♀♀. The *females* are of a more transparent white colour than the *males*.

Evidently allied to *C. calice* Hopff. and *C. gregori* Butler, but differs in the distribution of black markings on both sides, especially at base of wings.

PIERIDAE.

26. **Mylothris tirikensis** spec. nov. (Pl. I. f. 9).

Apparently allied to *M. rueppelli* Koch.

♀. *Upperside.*——Forewing: ground-colour white, base of wing nearly to extremity of cell and extending slightly along inner margin, ochreous red, heavily dusted especially in region of cell with dark scales. Costal edge black and linear, widening considerably at apex, and following distal margin breaks up into two spots at extremities of first and second median nervules. One small spot at extremity of submedian nervure.——Hindwing pale sulphur-yellow at base, slightly dusted with dark brown scales. On distal margin six small black spots at ends of nervules.

Underside.——Silvery white. Base of forewing nearly to extremity of cell and base of costa of hindwing bright orange. At apex and distal margin of forewing at end of nervules seven, on hindwing six small black spots.

Expanse, 43 mm.

This peculiar little species, of which we have a single ♀ from the Tiriki Hills, 26. ii. 03, is probably nearest to *M. rueppelli* Koch, from which it differs in the much smaller size, in the dusting over of the base of both wings with dark scales, giving it a very different appearance, and in the relatively heavier black marking of apex of forewing.

27. **Pinacopteryx dixeyi** spec. nov. (Pl. I. f. 10).

White, with black margins and spots.

♂. *Upperside.*——Forewing creamy white. Costal edge black and linear, widening at apex, narrowing as it follows distal margin, ending in two small spots at extremities of second median nervule and submedian nervure.——Hindwing as forewing, with seven circular black spots on distal margin at end of nervules, with a small additional one between those on second median nervule and submedian nervure.

Underside.——Base of both wings and costa of hindwing, especially at base, flushed with orange. At apex and distal margin of forewing seven black spots, becoming smaller toward anal angle. Faint subapical yellow streaks between nervules of both wings.

♀ differs in slightly larger size—51 mm. nearly. Base and costa of forewing dusky. Apex and distal margin of forewing broader but less black, interrupted by rather ill-defined yellow internervular streaks. Both wings less heavily scaled and more transparent.

Expanse, 49 mm.

5 ♂♂, 6 ♀♀, from Toro.

Allied to *P. charina* Boisd., from which it differs in its white colour and less heavy but better defined markings.

I have great pleasure in dedicating this species to Dr. F. A. Dixey, of Wadham College, Oxford.

PAPILIONIDAE.

28. **Papilio gallienus peculiaris** subsp. nov. (Pl. I. f. 7).

♀. Dusky brown, with scanty cream-coloured markings.

Upperside.——Forewing dusky brown, base and costal margin rather darker in colour than distal margin and rest of wing. A small whitish spot on apical margin. At the upper part of extremity of cell, a small indefinite cream-coloured patch on each side of subcostal nervure, lying both within and without cell. Beyond extremity of cell a narrow pale cream-coloured stripe extending from the first to the third radial nervule. Below the first median nervule begins a broad band of the same colour, becoming rather heavily dusted with brown scales as it reaches the distal margin. The inner part of this band is extended on to the hindwing as far as the cell.——The hindwing has a dark brown base of a triangular shape: the rest of wing paler brown, of a slightly redder tint than the forewing, becoming dark again at the distal margin; three dark streaks within the cell, and well-marked internervular streaks extending from the cell to the distal margin.

Underside paler in colour, with the cream-coloured markings better defined. Dark internervular streaks on the forewing, especially towards the apex. At the base of the hindwing a small orange triangular patch with one black spot upon the precostal nervure and a large one above the base of the cell. Fringe dark brown, with small white internervular patches on the hindmargin of the hindwing. This margin is slightly serrated.

Expanse, 82·5 mm.

1 ♀ from Entebbe, Uganda, April 6th, 1903.

Probably allied to *P. cynorta* Fabr.

29. **Papilio gallienus whitnalli** subsp. nov.

♂♀. Dusky brown with pale sulphur-yellow markings.

The eastern form of *gallienus*, somewhat resembling *P. cypraeofila* Butler.

Upperside dusky brown. A pale sulphur yellow stripe crosses both wings, in the forewing commencing near the costa, about midway between apex and extremity of cell, breaking up into nine somewhat elongated spots, of which the last is least well defined and the next above it, which is placed between the submedian nervure and second median nervule, is broader and less elongated. The stripe crossing hindwing is complete. It includes extremity of cell, and is invaded outwardly by short internervular projections of the ground colour. There is a small yellow spot upon apex of forewing, and five small spots of

the same colour upon hindmargin, slightly increasing in size as they approach the posterior angle. There are seven larger internervular spots upon distal margin of hindwing.

Underside.——Forewing paler brown and rather redder brown at apex. There may be a small rather ill-defined spot at lower part of extremity of cell.—— Hindwing: base ochreous-orange colour with black markings reaching nearly to extremity of cell, where it is bounded by a creamy white stripe crossing the wing. Within this basal area one well-marked black streak between costa and subcostal nervure; one short one between first subcostal nervule and subcostal nervure; three within the cell; a trace of one between median nervure and second median nervule (this may be absent); one on each side of internal nervure. The rest of wing brown with darker brown internervular streaks projecting into the pale stripes and ending at the marginal spots, which are the same as on upperside. The creamy yellow colour of stripe may invade this brown area somewhat between the radial and second subcostal nervules.

♀ differs in slightly larger size, and in the better development of the spot at extremity of cell on forewing, which may be visible on upperside.

It will be seen that this subspecies is intermediate between *P. cypraeofila* Butler and *P. gallienus* Dist. In the macular nature of the spots of the forewing it differs from *P. cypraeofila*, while in width of stripe in hindwing and extent of ochreous-orange basal area it is intermediate between the two species. The hindwing seems to be more markedly denticulated and the angle in the middle of distal margin more produced toward a tail than in *P. g. gallienus*.

3 ♂♂, 3 ♀♀, Entebbe, April 1—12, 1903.

Expanse: ♂, 102 mm.; ♀, 105 mm.

I have much pleasure in dedicating this form to my friend Mr. S. Ernest Whitnall, of Magdalen College, Oxford.

HESPERIIDAE.

30. **Cyclopides trisignatus** spec. nov. (Pl. I. f. 8).

♂. Dusky brown with golden yellow spots.

Upperside, both wings dusky brown. On forewing three golden yellow spots arranged in a triangle in the distal third of the wing. The smallest spot which forms the apex of the triangle is nearest the distal margin.

On hindwing four small golden yellow spots, of which the largest is near the apex. A few golden yellow scales scattered around the extremity of the cell.

Underside.——Forewing as upperside. Hindwing uniformly dusky brown.

Expanse: 28 mm.

1 ♂, Entebbe, April 4, 1903.

Allied to *C. quadrisignatus* Butler, but differs in arrangement of spots in both wings.

	Ugaia Jan. 1-31. 1903.		Kalachonyo Plain Dec. 19-27, 1902.		Kisumu I. 25. 11. 02 -7. 2. 03.		Kisumu II. 8. 3. 03 -10. 5. 03.	
NYMPHALIDAE.								
Danainae.								
Limnas chrysippus f. *chrysippus* Linn.	4♂	7♀	2♂	—	47♂	21♀	7♂	—
„ „ f. *alcippoides* Moore	—	—	—	—	13♂	2♀	—	—
„ „ f. *alcippus* Cram.	1♂	—	—	—	6♂	2♀	—	—
„ „ f. *dorippus* Klug	2♂	1♀	1♂	—	69♂	28♀	5♂	1♀
„ „ f. *albinus* Lanz	—	—	—	—	6♂	4♀	1♂	—
Tirumala limniace petiverana Dbl. & Hew.	1♂	—	—	—	—	—	—	—
Melinda mercedonia Karsch	—	—	—	—	—	—	—	—
„ *formosa formosa* Godm.	1♂	—	—	—	—	—	—	—
Amauris niavius niavius Linn.	—	—	—	—	—	—	—	—
„ „ f. intermediate to *dominicanus* Trim.	—	—	—	—	—	—	—	—
„ *psyttalea psyttalea* Plötz	5♂	—	1♂	—	—	—	—	—
„ *damocles* Staud.	—	—	—	—	—	—	—	—
„ *dira* spec. nov.	—	—	—	—	—	—	—	—
„ *hecate* Butler	—	—	—	—	—	—	—	—
„ *echeria jacksoni* Sharpe	—	—	—	—	—	—	—	—
„ *albimaculata* Butler	—	—	—	—	—	—	—	—
Elymniinae.								
Elymnias phegea Fabr.	—	—	—	—	—	—	—	—
„ *bammakoo* Westw.	—	—	—	—	—	—	—	—
Satyrinae.								
Melanitis leda Linn.	1		—	—	—	—	2	
„ *libya* Dist.	—		—	—	—	—	—	
Gnophodes parmeno Dbl. & Hew.	2		—	—	—	—	—	
„ *chelys* Fabr.	—		—	—	—	—	—	
Bicyclus iveins Hew.	—		—	—	—	—	—	
Mycalesis dentata Sharpe	2		—	—	—	—	—	
„ *mandanes* Hew.	4		—	—	—	—	—	
„ *technatis* Hew.?	—		—	—	—	—	—	
„ *sophrosyne* Plötz	—		—	—	—	—	—	
„ *golo* Auriv.	—		—	—	—	—	—	
„ *safitza safitza* Hew.	8		—	—	1		6	
„ *martius* Fabr.	—		—	—	—		—	
„ *vulgaris* Butler	7		—	—	2		—	
„ *nebulosa* Feld.	—		—	—	—		—	
„ *natuna* Karsch	—		—	—	—		—	
„ *saussurei* Dewitz	20		—	—	—		—	
„ *ansorgei* Sharpe	—		—	—	—		—	
Henotesia perspicua f. *perspicua* Trim.	4		—	—	3		1	
Neocaenyra gregori Butler	1		—	—	—		—	
Ypthima asterope Klug	—		1		—		—	
„ *impura* E. & E.	1		—		—		—	
„ *albida* Butler	—		—		—		—	

Nyangori I. 1. 11. 02 –5. 12. 02.		Nyangori II. 27. 1. 03.		Nyangori III. 25. 3. 03 –26. 4. 03.		Tiriki Hills 20. 2. 03 –20. 3. 03.		Usemi May 1903.		Entebbe April 1–12, 1903.		Toro Nov.–Dec. 1900.	
9♂	3♀	—	—	4♂	5♀	2♂	4♀	3♂	2♀	4♂	7♀	5♂	—
—	—	—	—	—	—	—	—	—	1♀	—	—	—	—
2♂	—	—	—	—	3♀	2♂	—	—	—	1♂	1♂	—	—
4♂	1♀	—	—	4♂	2♀	3♂	1♀	4♂	2♀	18♂	17♀	1♂	—
2♂	—	—	—	—	—	—	—	—	—	—	—	—	—
12♂	3♀	—	—	5♂	1♀	—	—	—	—	1♂	—	29♂	14♀
—	—	—	—	—	—	—	—	—	—	1♂	—	29♂	—
9♂	2♀	—	—	4♂	—	24♂	2♀	—	—	—	—	—	—
1♂	—	—	—	1♂	—	1♂	—	—	—	15♂	12♀	79♂	17♀
1♂	—	—	—	—	—	—	—	—	—	1♂	—	—	—
4♂	1♀	—	—	1♂	—	14♂	4♀	—	—	3♂	2♀	3♂	—
16♂	5♀	—	—	3♂	1♀	—	—	—	—	3♂	—	13♂	2♀
1♂	—	—	—	—	—	1♂	—	—	—	—	—	—	—
1♂	—	—	—	—	—	1♂	—	—	—	—	—	2♂	—
17♂	2♀	—	—	12♂	4♀	14♂	2♀	—	—	3♂	—	8♂	—
3♂	—	—	—	3♂	1♀	9♂	5♀	—	—	1♂	3♀	18♂	4♀
—	—	—	—	—	—	—	—	—	—	—	—	1♂	1♀
—	—	—	—	—	—	—	—	—	—	3		3♂	1♀
1		—	—	2		1		4		26		—	—
—		—	—	—		1		—		—		—	—
—		—	—	—		6♂	3♀	—		9♂	3♀	—	—
—		—	—	—		14♂	3♀	—		1♂	—	—	1♀
—		—	—	—		—	—	—		4		—	—
1		—	—	—		14		—		—		2	
—		—	—	—		15		—		19		1	
—		—	—	—		—	—	—		3		—	
—		—	—	—		—	—	—		4♂	—	—	
1♂	—	—	—	—		7♂	3♀	—		6♂	—	—	
6		1		3		1		4		8		3	
—		—		—		1		—		2		3	
5		—		1		2		—		18		—	
—		—		—		—	2♀	—		45♂	15♀	5♂	—
—		—		—		—	—	—		—	—	1	
—		—		—		1		—		—	—	3	
—		—		—		—		—		5♂	2♀	2♂	1♀
—		—		—		—		10		4		—	
27		—		12		3		—		—		2	
—		—		—		—		—		11		2	
2		—		—		—		—		—		2	
23		—		1		3		—		9		2	

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25. 11. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
NYMPHALIDAE—continued.				
Acraeinae.				
Pardopsis punctatissima Boisd.	—	1	73	15
Acraea quirinalis Grose-Smith	—	—	—	—
„ *iturina* Grose-Smith	—	—	—	—
„ *humilis* Sharpe	—	—	—	—
„ *cinerea* spec. nov.	—	—	—	—
„ *insignis* Dist.	1♂ 2♀	—	—	—
„ *neobule* Dbl. & Hew.	— —	—	52♂ 28♀	8♂ 2♀
„ *asboloplintha* Karsch.	— —	—	— —	— —
„ *zetes* Linn.	— —	—	— —	— —
„ *egina* Cram.	2♂ —	—	— —	— —
„ *perenna* Dbl. & Hew.	6	—	— —	— —
„ *wigginsi* spec. nov.	—	—	— —	— —
„ *caldarena* Hew.	—	—	4♂ 3♀	— —
„ *sykesi* Sharpe	—	—	— —	— —
„ *doubledagi equatorialis* subsp. nov.	—	—	66♂ 44♀	39♂ 23♀
„ *mystica* spec. nov.	—	—	1♂ —	— —
„ *encedon* Fabr.	—	—	3♂ —	— 2♀
„ *clarei* spec. nov.	—	—	— —	— —
„ *serena* Fabr.	3	2	88	387
„ *vinidia* f. *vinidia* Hew.	3	—	1	2
„ *sotikensis* Sharpe	2	—	1	—
„ *praeponina* Staud.?	—	—	5	—
„ *bomsia* Fabr.	—	—	—	—
„ *alicia* Sharpe	1♂ —	—	6♂ 2♀	52♂ 1♀
„ *uvui* Grose-Smith	— —	—	—	— —
„ *apecida* Oberth.	— —	—	—	— —
„ *cabira* f. *cabira* Hopff.	— —	—	—	— —
„ *althoffi* Dewitz.	— —	—	—	— —
„ *pharsalus* f. *pharsalus* Ward	1♂ —	—	—	— —
„ *encedon* f. *encedon* L.	12	—	41	26
„ „ f. *alcippina* Auriv.	—	—	2	1
„ „ f. *lycia* Fabr.	3	—	7	6
„ „ f. *daira* Godm. & Salv.	—	—	28	18
„ *pentapolis* Ward	—	—	—	—
„ *crina* f. *crinata* Oberth.	—	—	—	—
„ *pomponia* Grose-Smith	1	—	—	—
„ *pomponia?*	—	—	—	—
„ *pendeos* Ward	—	—	—	—
„ *pelusyias* Grose-Smith	—	—	—	—
„ *serrona* Godm.	—	—	—	—
„ *semivitrea pervia* Sharpe	—	—	—	—
„ *circeis ntebiae* Sharpe	—	—	—	—
„ *orcas* Sharpe	—	—	—	—
„ „ f. *albimaculata* nov.	—	—	—	—
„ *toruna* Grose-Smith	—	—	—	—
„ *johnstoni* f. *flavescens* Oberth.	—	—	—	—

Nyangori I. 1. 11. 02 –5. 12. 02.	Nyangori II. 27. 1. 06.	Nyangori III. 25. 3. 03 –26. 4. 03.	Tiriki Hills 20. 2. 03 –20. 3. 38.	Usemi May 1903.	Entebbe April 1–12. 1903.	Toro Nov.–Dec. 1900.
—	—	—	—	61	—	—
—	—	—	7	—	1	—
—	—	—	10	—	—	—
—	—	—	4♂ 1♀	—	1♂ 1♀	—
—	—	—	5♂ 1♀	—	—	—
— 1♀	—	—	1♂ —	—	4♂ 7♀	—
— —	—	—	— —	— 1♀	2♂ —	—
— —	—	—	15	— —	—	—
— —	—	—	—	— —	3♂ 4♀	—
6♂ 1♀	1♂ —	— 1♀	8♂ 2♀	— —	— —	—
14	— —	9	8	— —	1	4
—	— —	—	— 1♀	— —	—	—
—	— —	—	— —	— —	—	—
—	— —	—	— —	— —	— 1♀	—
—	— —	—	1♂ —	— —	— —	—
—	— —	—	— —	— —	— —	—
1♂ —	— —	— 1♀	1♂ —	— —	2♂ 2♀	—
— —	— —	— —	— —	— —	— —	—
2	— —	14	1	582	218	6
19	1	68	—	1004	82	6
4	—	8	19	—	—	1
2	1	—	— —	—	2	—
—	—	—	— —	—	—	1
20♂ —	17♂ —	—	24♂ 2♀	1♂ —	16♂ 1♀	4
1	— —	—	3	— —	— —	1
1	— —	54	—	— —	— —	—
—	— —	—	—	— —	20	1
—	— —	—	—	— —	1♂ —	—
—	— —	—	3♂ —	— —	4♂ 1♀	—
1	— —	2	9	10	82	1
—	— —	—	4	1	—	—
—	— —	—	1	1	108	—
—	— —	—	—	6	72	—
—	— —	—	—	—	2♂ 1♀	—
1♂ —	— —	—	—	—	5♂ —	—
— —	— —	2	—	—	7	29
— —	— —	—	6♂ 1♀	—	2	—
— —	— —	—	1	—	8	6
— —	— —	—	—	—	4	—
— —	— —	—	—	—	1	2
— —	— —	—	5	—	—	—
2♂ —	— —	1♂ 1♀	—	1♂ —	4♂ 2♀	—
1	— —	—	39	— —	— —	3
—	— —	—	4	— —	— —	—
—	— —	—	—	— —	— —	8
—	— —	—	9	— —	— —	—

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25. II. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
NYMPHALIDAE—continued.				
Acraeinae.				
Acraea lycoa Godm.	—	—	—	—
„ *esebria* f. *esebria* Hew.	—	—	—	—
„ *iodutta* Fabr.	—	—	—	—
„ ♀-f. *carmentis* Dbl. & Hew. ?	—	—	—	—
„ *alciope* Hew.	—	—	—	—
„ *aurivillii* Staud.	—	—	—	—
„ *disjuncta** Grose-Smith	—	—	—	—
Planema tellus Auriv.	—	—	—	—
„ *arenaria* Sharpe	—	—	—	—
„ *poggei* Dewitz.	—	—	—	—
„ *latifasciata* Sharpe	—	—	—	—
„ *paragea* Grose-Smith	—	—	—	—
„ *godmani* Butler	—	—	—	—
Nymphalinae.				
Atella columbina Cram.	—	—	—	—
„ *phalantha aethiopica* R. & J.	4	—	3	—
Bicuthis hemingtoni Elwes	—	—	—	—
Antanartia schaenela Trim.	—	—	—	—
„ *abyssinica* Feld.	—	—	—	—
Pyrameis cardui Linn.	7	1	16	9
Vanessula milca Hew.	—	—	—	—
Precis orithya madagascariensis Guen.	2	—	5	—
„ *clelia clelia* Cram.	11	8	42	15
„ *oenone cebrene* Trim.	4	6	18	7
„ *westermanni suffusa* R. & J.	6♂ —	—	—	—
„ *sophia sophia* Fabr.	2	1	8	10
„ „ *infracta* Butler	—	—	3	3
„ *octavia sesamus* f. *natalensis* Staud.	6	—	—	—
„ „ „ f. *sesamus* Trim.	2	—	11	1
„ *cerycc cerycc* Boisd.	25	—	1	—
„ *actia* f. *actia* Dist.	1	—	2	—
„ *aurorina* Butler	1 ?	—	—	—
„ *ranana* Grose-Smith	—	—	—	—
„ *coelestina* Dewitz	1	—	—	—
„ *archesia* f. *pelasgis* Godt.	—	—	1	1
„ *terea terea* Drury	3	—	2	4
„ *stygia gregori* Butler	10	—	2	—
„ *charimene* Guer.	16	13	37	27
„ *artaxia* Hew.	42	—	—	—
Catacroptera cloanthe cloanthe Cram.	19	3	12	5
Salamis parhassus aethiops Palis.	—	—	—	—
„ *temora* Feld.	—	—	—	—
Hypolimnas misippus f. *misippus* Linn.	5♂ 1♀	10♂ 4♀	18♂ 39♀	12♂ 3♀
„ „ ♀-f. *alcippoides* Butler	— —	— —	7	— —

* *Acraea unimaculata* Grose-Smith, 1♂, from Kakamegas near

Nyangori I. 1. 11. 02 –5. 12. 02.		Nyangori II. 27. I. 03.		Nyangori III. 25. 3. 03 –26. 4. 03.		Tiriki Hills 20. 2. 03 –20. 3. 03.		Usemi May 1903.		Entebbe April 1 13, 1903.		Toro Nov.–Dec. 1900.	
—		—	—		—	5♂	3♀		—	22♂	11♀	8♂	1♀
5♂	1♀	—	—	2♂	—	—	—	—	—	—	—	—	—
1♂	—	—	—	—	—	6		—	—	9		—	—
—	—	—	—	—	—	—	1♀			—	1♀	—	—
—	—	—	—	—	—	—	—	—	—	23♂	—	1♂	—
—	—	—	—	—	—	—	—	—	—	14♂	—		
1		—	—	—	—	24			—	—	—		—
1♂	—	—	—	—	—	1♂	—	—	—	2♂	4♀		—
—	—	—	—	—	—	—	—	—	—	1♂	8♀		—
—	—	—	—	1♂	—	3♂	1♀		—	—	—	3♂	
—	—	—	—	—	—	11♂	12♀	—	—	—	—	1♂	
—	—	—	—	—	—	—	—	—	—	1♂	1♀	—	—
—	—	—	—	—	—	—	—	—	—	—	2♀	—	—
—	—	—	—	—	—	—	—	—	—	8		—	—
16		2		11		23		2		18		65	
1		—		—		1		—		—			
—		—		—		3		—		—			
—		—		—		—		—		—		3	
—		2		—		—		4		1		1	
—		—		1		34		—		—		4	
—		—		—		—		—		—		—	
4		—		10		2		58		16		11	
—		—		—		—		6		—		—	
20♂	1♀	1♂	—	17♂	1♀	12♂	2♀	—		—		38♂	
15		4		16		—		—		22		7	
16		1		34		—		2		—		—	
1		—		—		1		1		—		—	
9		6		1		4		6		4		4	
—		—		—		—		—		1		5	
1		—		3		2		—		1		—	
—		—		—		—				—		1	
—		—		—		12♂ ?		—		—	3♀	—	
12		4		4		—		—		—	—	1	
11		1		13		3		—		8		4	
39		6		51		2		4		7		14	
7		—		1		41		—		1		23	
12		—		3		—		25		4		1	
—		—		—		—		—		—		—	
2		—		—		—		8		—		3	
20		1		6		91		—		—		10	
—		—		—		4		—		2		12	
—	1♀	—		—		1♂	—	3♂	2♀	7♂	5♀	10♂	—
—	—	—		—		—		—		—	—	—	—

Mumias, which is on the railway some 15 miles N.E. of Kisumu.

	Ugala Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25.11.02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
NYMPHALIDAE—continued.				
Nymphalinae.				
Hypolimnas misippus ♀-f. *inaria* Cram.	1	—	—	—
„ „ ♀-f. *dorippoides* Auriv.	—	2	31	—
„ *salmacis* Drury	—	—	6	—
„ *monteironis* Druce	—	—	—	—
„ *dinarcha* Hew.	—	—	—	—
„ *dubius dubius* Pal.	—	—	—	—
„ „ *mima* Trim.	—	—	—	—
„ *antheilon antheilon* Dbl.	—	—	—	—
Apaturopsis cleocharis Hew.	—	—	—	—
Kallima rumia Dbl. & Hew.	—	—	—	—
„ *ansorgei* Rothsch.	—	—	—	—
Eurytela hiarbas lita R. & J.	—	—	—	—
„ *dryope angulata* Auriv.	1	1	—	—
Neptidopsis ophione ophione Cram.	—	—	—	—
„ „ *velleda* Mab.	1	—	—	—
Ergolis enotrea Cram.	3	—	—	—
Mesoxantha ethosea Drury	—	—	—	—
Byblia ilithyia ilithyia Drury	5	—	6	—
„ *anvatara acheloia* Wallgr.	1	—	8	1
Asterope occidentalium Mab.	—	—	—	—
„ *boisduvali* Wallgr.	13♂ —	—	—	—
„ *ansorgei* R. & J.	1	—	—	—
Marpesia camillus Fabr.	—	—	—	—
Neptis saclava marpessa Hopff.	2	—	—	—
„ *nemetes* Hew.	—	—	—	—
„ *agatha* Stoll.	3	—	7	1
„ *conspicua* spec. nov.	—	—	—	—
„ *nicomedes nicomedes* Hew.	—	—	—	—
„ *strigata* Auriv.	—	—	—	—
„ *clarei* spec. nov.	—	—	—	—
„ *melicerta melicerta* Drury	—	—	—	—
„ *ochracea* spec. nov.	—	—	—	—
„ *woodwardi* Sharpe	—	—	—	—
Pseudacraea lucretia expansa Butler	—	—	—	—
„ *kuenowi neumanni* Thur.	—	—	—	—
„ *hobleyi* spec. nov.	—	—	—	—
„ *terra* spec. nov.	—	—	—	—
„ *turkensis* spec. nov.	—	—	—	—
„ *obscura* spec. nov.	—	—	—	—
Pseudoneptis cornobita Fabr.	—	—	—	—
Catuna crithea Drury	2	—	—	—
Pseudacraea hegemone Karsch	1♂ 1♀	—	—	—
Cymothra opis Drury	— —	—	—	—
Aterica galene galene Brown	— —	—	—	—
Leucosticha dacdalus Fabr.	11	1	2	—
Euphaedra ruspina Hew.	—	—	—	—

Nyangori I. 1. 11. 02 –5. 12. 02.	Nyangori II. 27. 1. 03.	Nyangori III. 25. 3. 03 – 26. 4. 03.	Tiriki Hills 20. 2. 03 –20. 8. 03.	Usemi May 1903.	Entebbe April 1–12, 1903.	Toro Nov.–Dec. 1900.
— —	-	- -		2	- -	— —
- -	-	-		—	- -	- -
- -	-	—	-	—	1♂	1
— —	-	—	-	-	1♂ 2♀	- -
— —	—	—		-	1♂ 1♀	—
- -	—	—			1	8
— —	—	1	- -		1	14
1	—	—	-	—	1	12
—	—	—	1	-		—
—	—	11	-			2♂ —
15	—	—	- -	-	- -	— —
1	—	—	5	—	9	9
1	-	—	—	—	9	1
—	—	—	—	—	2	- -
2	—	—	3	—	1	3
10	—	4	7	—	33	15
—	—	—	—	—	—	3
—	-	—	—	—	—	4
6	—	3	—	4	27	20
1	1	2	15	—	1	—
10♂ 1♀	1♂ —	1♂ —	4	—	11♂ 3♀	- -
3	— —	— —	3	—	35	1
4	1	11	35	—	11	
4	—	1	2	—	3	-
—	—	—	—	—	1	—
8	—	2	4	10	5	7
1♂ 1♀	—	—	1	—	1♂ —	
— —	—	—	- -	-	1	
- -	- -				3	2
- -	—	—			1	—
— —	—	—			1	1
— —	—	—	7		1	
— —	—	—	—		1	
— —	—	—	7	-	- -	
16	—	38	8		11	24
- -	—	-	—		2♂	
—	—	- -	—	-	2♂ - -	—
—	—	—	—	—	1♂ —	-
—	—	—	2♂ —	—	— - -	- - 1♀
—	—	—	— —	—	1♂ 1♀	- -
—	—	—	—	—	— —	4
—	—	—	8	—	- -	2
—	—	2♂ —	12♂ 9♀	—	1♂ - -	9♂ —
—	—	— —	- -	—	— 3♀	1♂ -
1♂ —	—	2♂ 1♀	5♂ 4♀	—	17♂ 13♀	6♂ 10♀
4	—	2	1	3	— —	- -
—	—	—	—	—	— - -	1

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25. 11. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 10. 5. 03.
NYMPHALIDAE continued.				
Nymphalinae.				
Euphaedra eleus f. *eleus* Drury	—	—	—	—
„ „ f. *coprates* Druce	—	—	—	—
„ *paradoxa* spec. nov.	— 1 ♀	—	—	—
„ spec. near *medon* Linn.	— —	—	—	—
„ *medon* Linn. f.?	— —	—	—	—
„ *uganda* Auriv.	— —	—	—	—
„ *losinga* Hew.	— —	—	—	—
„ *spatiosa* Mab.	— —	—	—	—
Eurytphene marshalli Fabr.	— —	—	—	—
„ *congolensis* Capronn.?	— —	—	—	—
„ *oxione* Hew.?	— —	—	—	—
„ *absolon* Fabr.?	— —	—	—	—
„ *tentyris* f. *tentyris* Hew.?	— —	—	—	—
Diestogyna amaranta Karsch	— —	—	—	—
„ *vibensis* Ward	— —	—	—	—
Euryphura plautilla Hew. f.?	— —	—	—	—
Cymothoe theobene theobene Dbl. & Hew.	— —	—	—	—
„ *egesta confusa* Auriv.	— —	—	—	—
„ *caenis* Drury	— —	—	—	—
„ *coccinata* Hew.	— —	—	—	—
„ *sangaris* Hew.	— —	—	—	—
Euptera hirundo Stand.	— —	—	—	—
Euxanthe crossleyi ansorgei R. & J.	— —	—	—	—
Charaxes brutus brutus Cram.	1	—	—	—
„ *epijasius* Reiche.	—	—	—	1
„ *castor* Cram.	2	—	—	—
„ *pollux* Cram.	1	—	—	—
„ *eudoxus mechowi* Rothsch.	—	—	—	—
„ *etesipe* Godm.	—	—	—	—
„ *lucretius* Cram.	—	—	—	—
„ *antaeus* Drury	4	—	—	—
„ *baumanni* Rogenh.	1	—	—	—
„ *ethecles ethecles* Cram.	14 ♂ —	1 ♂ —	3 ♂	—
„ „ ♀-f. *kirki* Butler	— —	— —	1 ♀	—
„ „ ♀-f. *cedreatis* Hew.	— —	— —	— —	—
„ „ *pythodoris* Hew.	— —	— —	— —	—
„ „ *tiridates tiridates* Cram.	— —	— —	— —	—
„ „ *numenes* Hew.	— —	— —	— —	—
„ „ *candiope* Godm.	2	— —	— —	1
„ „ *varanes varanes* Cram.	—	— —	— —	2
„ „ *decius* Cram.	—	— —	— —	—
„ „ *lichas* Dbl. & Hew.	—	— —	— —	—
„ „ *paphianus* Ward	—	— —	— —	—
„ „ *zoolina zoolina* Dbl. & Hew.	—	— —	1	—
„ „ *neanthis* Hew.	—	1	4	4

Nyangori I. 1. 11. 02 –5. 12. 02.	Nyangori II. 27. 1. 03.	Nyangori III. 25. 2. 03 –26. 4. 03.	Tiriki Hills 20. 2. 03 –29. 3. 03.	Usemi May 1903.	Entebbe April 1. 12. 1903.	Toro. Nov.–Dec. 1900.
—	—	—	2	—	— —	3
—	—	—	—	—	— —	1
—	—	—	—	—	— —	—
—	—	—	—	—	— —	2
—	—	—	—	—	19	—
—	—	—	7♂ 3♀	—	–	—
—	—	—	—	—	12	8
—	—	—	—	—	3	2
—	—	—	—	—	1♂ 1♀	1♂ —
—	—	—	—	—	— —	1♀
—	—	—	—	—	—	4♂ 1♀
—	—	—	—	—	1♂ 2♀	4♂ 1♀
—	—	—	—	—	— —	5♂ 1♀
—	—	—	—	—	? —	— 1♀
—	—	—	3♂ 1♀	—	1♂ 1♀	— —
—	—	—	1♂ 1♀	—	— —	— —
—	—	—	— —	—	— —	24♂ 1♀
—	—	—	— —	—	— —	1♂ —
—	—	—	— —	—	— —	— 1♀
—	—	—	— —	—	— —	1♂ —
—	—	—	— —	—	— —	5♂ —
—	—	—	— —	—	1	— —
—	—	—	2♂ —	—	—	— —
3	—	—	— —	—	—	— —
1	—	—	— —	—	—	— —
18	—	3	— —	—	—	— —
33	—	25	9	—	—	— —
—	—	—	1♂ —	—	—	— —
4♂ —	—	2♂ —	1♂ —	—	2♂ —	2♂ —
— —	—	— —	— —	—	2	1
1	—	5	1	—	—	2
12	—	11	1	—	—	—
31♂ 4♀	—	22♂ 1♀	10♂ —	—	—	8♂ —
— —	—	— —	— —	—	—	— —
— —	—	— —	— 1♀	—	—	— —
3♂ —	—	— —	— —	—	—	— —
8♂ 1♀	—	6♂ 2♀	— —	—	—	5♂ —
9♂ —	—	16♂ —	3♂ —	—	—	3♂ —
36	—	25	5	—	—	— —
9	—	10	9	4	2	7
—	—	—	—	—	—	1♂ —
—	—	—	—	—	—	9
—	—	—	—	—	2	2
—	—	—	—	1	—	—
—	—	—	—	—	—	—

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25. 11. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
NYMPHALIDAE—continued.				
Nymphalinae.				
Charaxes cupale Drury, f. intermediate to *dilutus* Rothsch.	7	—	—	—
„ *zingha* Cram.	—	—	—	—
Libytheinae.				
Libythea labdaca Westw.	2	—	—	—
LEMONIIDAE.				
Abisara gerontes Fabr.	—	—	—	—
LYCAENIDAE.				
Telipna nyanza spec. nov.	—	—	—	—
„ *carnuta carnuta* Hew.	—	—	—	—
Pentila clarei spec. nov.	—	—	—	—
„ *petreia petreia* Hew.	—	—	—	—
Poultonia ochracea spec. nov.	—	—	—	—
Mimacraea poultoni spec. nov.	—	—	—	—
Teriomima xantha Grose-Smith	—	—	—	—
Larinopoda tera Hew.	—	—	—	—
Tetrarhanis ilma Hew.	—	—	—	—
? Aslanga purpurascens Holl.	—	—	1	—
Epitola pinodoides Smith & Kirby	—	—	—	—
Lachnocnema bibulus Fabr.	—	—	—	— 1♀
Megalopalpus similis Kirby	—	—	—	— —
Rapala coerulea Druce	—	—	1	— —
Virachola antalus Hopff.	—	—	1♂ 2♀	— —
Myrina silenus Fabr.	—	—	— —	— —
Oxylides faunus f. *albata* Auriv.	—	—	— —	— —
Hypolycaena hatita Hew. f. ?	2♂ 1♀	—	— —	— —
„ *antifaunus* Dbl. & Hew.	— —	—	— —	— —
„ *lebona* f. *lebona* Hew.	— —	—	— —	— —
„ *liara* Druce	3♂ –	—	—	— —
„ *philippus* Fabr.	— —	—	— —	— —
Aphnaeus pallene Wallen.	— —	–	1	— —
„ *hollandi* Butler.	— —	—	—	— —
Spindasis natalensis Dbl. & Hew.	— —	—	2	1
„ sp. ?	5	—	—	—
„ *aderna* Plötz	5♂ 1♀	—	—	—
Axiocerses harpax Fabr.	20♂ 1♀	1♂ —	—	3♂ —
„ *amanga* Westw.	— —	— —	—	— —
Leptomyrina lara Linn.	— —	— —	7	— —
Spalgis lemolea Druce	— —	— —	—	— —
Lycaenesthes amacuh Guér.	— —	— —	12	— —

Nyangori I. 1. 11. 02 –5. 12. 02.		Nyangori II. 27. 1. 03.		Nyangori III. 25. 3. 03 –26. 4. 03.		Tiriki Hills 20. 2. 03 –20. 8. 03.		Usemi May 1903.		Entebbe April 1–12. 1903.		Toro Nov.–Dec. 1900.	
6		—		1		8		—		—		5	
—		—		—		—		—		1		1	
—		—		2		1		—		—		-	
—		—		—		17		—				1	
—		—		—		—		—		—	1♀	—	
—		—		—		—		—		2♂	—	-	
1♂	—	—		1♂	—	—		—		2♂	1♀	2♂	—
—	—	—		—	—	—		—			24	—	—
—	—	—		—	—	—		1♂	—	—		—	—
—	—	—		2♂	—	—		—	—	1♂	—	—	—
—	—	—		—	—	—		—	—		4	—	—
—	—	—		—	—	—		—	—		3	—	—
—	—	—		—	—	1		—	—	—		—	—
—	—	—		—	—	—		—	—	—		—	—
—	—	—		—	—	1		—	—	—		—	—
—	—	—		—	—	—		1♂	—	—		—	—
—	—	—		—	—	—		—	—		4	—	—
—	—	—		—	—	—		—	—	—		—	—
—	—	—		—	—	—		—	—	1♂	—	—	—
—	—	—		—	—	—		—	—		17	—	—
—	—	—		—	—	—		—	—	5♂	2♀	2♂	—
38♂	5♀	—	1♀	16♂	4♀	10♂	2♀	—	—	5♂		1♂	—
—	—	—	—	—	—	8♂	1♂	—	—	1♂	1♀	3♂	—
—	—	—	—	—	—	-	-	—	—	—	-	2♂	—
13♂	1♀	1♂	—	1♂	—	—	—	—	—	1♂	-	1♂	—
—	—	—	—	3♂	—	—	—	—	—	5♂	-	8♂	1♀
—	—	—	—		1	-	-	—	—	-	-		
—	—	—	—		-	—	—	—	—		-	2	
—	—	—	—		3	—	—		1	—	-		
—	—	—	—		1	—	—	—	—	-	-		
—	—	—	—		-	—	—	—	—	—			
1♂	—		—		-	—	—	—	—	—	-		
—	—	—	—		-	—	-	1♂	—	—			
—	—	—	—		-	—	—	—	—	-	-		
1♂	2♀	—	—		-	—	—	—	—	—	-		
—	—	—	—		—	—	—		17	-			

	Ugaia Jan. 1–31, 1903.		Kalachonyo Plain Dec. 19–27, 1902.		Kisumu I. 25. 11. 02 –7. 2. 03.		Kisumu II. 8. 3. 03 –10. 5. 03.	
LYCAENIDAE—continued.								
Lycaenesthes sylvanus Drury	—	—	—	—	—		—	—
„ *lemnos* Hew.	4♂	1♀	—	—	1♂	2♀	—	—
„ *adherbal* Mab.	—	—	—	—	—	—	—	—
„ *ligures* Hew.	—	—	—	—	—	—	—	—
„ *larydas* Cram.	3♂	—	—	—	—	5♀	—	—
„ *kerstani* Gerst.	1♂	—	—	—	2♂	—	—	—
„ *crawshayi* Butler	1♂	—	—	—	1♂	—	—	—
„ sp.?	—	—	—	—	—	—	—	—
Phylaria cyara Hew.	—	—	—	—	—	—	—	—
Uranothauma antinorii Oberth.	—	—	—	-	—	—	—	—
„ *poggei* Dewitz		—	—	—	—	—	—	—
„ *falkensteini* Dewitz	2		—	—	—	—	—	—
Cacyreus lingeus Cram.	1		—	—	7		—	—
Castalius usemia spec. nov.	2		—	—	-		—	—
„ *margaritaceus* Sharpe	3		—	—	—		—	—
Tarucus telicanus f. *pulchra* Murray	17		—	—	20		1	
Azanus sigillatus Butler	3♂	—	1♂	—	1♂	3♀	—	
„ *mirza* Plotz	1♂	1♀	—	—	6♂	1♀	—	
„ *jesous* Guér.	—	—	—	—	3♂	4♀	—	
Polyommatus baeticus Linn.	10		—	—	4		—	
Cyclyrius aequatorialis Sharpe	—		—	—	—		—	
Catachrysops malathana Boisd.	1		—	—	—		—	
„ *mimlensis* spec. nov.	—		—	—	—		—	
„ *osiris* Hopff.	—		1		1		1	
„ *barkeri* Trim.	6♂	2♀	—		1		—	
„ *celeus* Cram.	—	—	—	2♀	—		—	
Chilades trochilus Frey.	—	—	—	—	2		2	
Capidopsis hippocrates Fabr.	—	—	—	—	—		—	
„ *cissus* Godm.	—	—	—	—	—		—	
„ *iolates* Hopff.	5		7		3		—	
Eurres micyclus Cram.	—		—		—		—	
Zizera antanossa Mab.	—		1		9		—	
„ *gaika* Trim.	—		—		15		—	
„ *lysimon* Hübn.	—		—		4		9	
„ *lucida* Trim.	—		—		—		—	
Oberonia punctatus Dewitz	—		—		—		—	
PIERIDAE.								
Leptosia medusa Cram.	7		—		6		—	
Herpaenia eriphia eriphia Godm.	7		—		-		—	
Mylothris chloris Fabr.	2		—		4		—	
„ *poppea* Cram.	—		—		-		—	
„ *agathina* Cram.	26♂	10♀	—		6		5	
„ *rueppelli* Koch.	—	-	—		-		—	
„ *tirikensis* spec. nov.			—		-		—	
„ *yulei* Butler	4							

Nyangori I. 1. 11. 02 –5. 12. 02.		Nyangori II. 27. 1. 03.		Nyangori III. 25. 3. 03 –26. 4. 03.		Tiriki Hills 20. 2. 03 –20. 3. 03		Usemi May 1903.		Entebbe April 1–12, 1903.		Toro Nov.–Dec. 1900.	
—	—	—	—		—	—	—	—		—	—	—	1 ♀
14 ♂	—	1 ♂	—	6 ♂	1 ♀	4 ♂	5 ♀	1 ♂	—	7 ♂	5 ♀	2 ♂	
—	—	—	—	1 ♂	—	—	—	1 ♂	—	—	—	3 ♂	—
—	—	—	—	—	—	—	—	—	—	1 ♂	—	6 ♂	—
—	—	—	—	9 ♂	—	1 ♂	—	—	—	—	1 ♀	12 ♂	—
—	—	—	—	3 ♂	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	1 ♂	—
—	—	—	—	1 ♂	—	—	—	—	—	—	—	1 ♂	—
—	—	—	—	—	—	42 ♂	1 ♀	—	—	—	—	3 ♂	—
—	—	—	—	—	—	18		—	—	—	—	1	
—	—	—	—	—	—	—		—	—	—	—	3	
1		—	—	6		62		1		—	—	19	
28		3		15		2		1		—	—	14	
1		—		—		—		3		—	—	—	
—		—		—		3		—		—	—	—	
37		22		85		5		19		4		17	
—		—		—		—		4 ♂	—	—		5 ♂	—
—		—		6 ♂	—	—		1 ♂	—	—		1 ♂	—
—		—		—	—	—		2 ♂	—	—		—	—
37		—		2		—		1		—		18	
—		—		—		—		—		—		1	
1		1		6		—		6		—		4	
—		1 ♂	—	—		—		—		—		—	
—		—	—	3		—		1		—		—	
5 ♂	—	—	—	2 ♂	—	—		—		—		2 ♂	—
—	1 ♀	—	—	—	—	1 ♂	—	—		1 ♂	1 ♀	1 ♂	—
—	—	—	—	—	—	—	—	1		—	—	—	—
—	—	—	—	3 ♂	—	—	1 ♀	—		—	1 ♀	—	—
—	—	—	—	1 ♂	—	—	—	—		—	—	—	—
1		—	—	—	—	—	—	10		—	—	1	
—		—	—	—	—	—	—	—		—	1 ♀	1 ♂	—
6		—	—	1		—	—	4		—	—	—	—
25		42		—		—	—	4		—		—	—
2		—		2		—	—	5		—			—
1		2		—		—	—	—					
—		—		—		—	—	—		24		2	
2		—		—		29		—		52		6	
—		—		—		—		—		—		—	
—		—		—		—		—		14		2	
4		—		1		23		—		11		1	
8		1		2		7		—		73		1	
—		—		—		12							
—		—		—		1		—		—			
6		—		—		14						1	

	Ugaia Jan. 1–31, 1903.		Kalachonyo Plain Dec. 19–27, 1902.		Kisumu I. 25. 11. 02 7. 2. 03.		Kisumu II. 8. 3. 03 –10. 5. 03.	
PIERIDAE—continued.								
Mylothris rubricosta Mab.	—		—		9		49	
„ *narcissus* f. *jacksoni* Sharpe	1		—		—		—	
Phrissura sylvia Fabr.	—		—		—		—	
„ *agassana* Butler	—		—		—		—	
„ *phoebe* Butler	1		—		—		—	
Glutophrissa epaphia Cram.	—		—		—		—	
Belenois raffrayi Obertb.	—		—		—		—	
„ *gidica* f. *westwoodi* Wallgr.	10♂	5♀	4♂	—	15♂	2♀	6♂	—
„ *severina* f. *severina* Cram.	18♂	3♂	27♂	—	22♂	11♀	1♂	2♀
„ *crawshayi* Butler	—	—	—	—	—	—	—	—
„ *zochalia* f. *formosa* Butler ?	—	—	—	—	—	—	—	—
„ *subeida* Feld.	24♂	7♀	26♂	8♀	16♂	4♀	1♂	—
„ *calypso* Drury	—	—	—	—	—	—	—	—
„ *lacinia* f. *thysa* Hopff.	10		—	—	2		2	
„ *solilucis* f. *solilucis* Butler	7		—	—	—		—	
Pinacopteryx pigea f. *pigea* Boisd.	5		—	—	1		1	
„ „ f. *alba* Wallgr.	4		—	—	—		—	
„ *rubrobasalis* Lanz	—		—	—	—		—	
„ *simana* Hopff.	1		—	—	9		—	
„ *bliana* Grose-Smith	—		—	—	6		—	
„ *dixeyi* spec. nov.	—		—	—	—		—	
Teracolus annatus cahis Cram.	6		—	—	—		—	
„ *vestalis castalis* Staud.	3		—	—	—		—	
„ *chrysonome chrysonoma* Klug	3		—	—	16		—	
„ *vesta* f. *catachrysops* Butler	4		1		—		—	
„ *celimene* Lucas	—		2		—		—	
„ *zelis* Klug	7♂	2♀	1♂	1♀	1♂	1♀	—	
„ *chromiferus* Rothsch.	8♂	1♀	1♂	—	24♂	7♀	4♂	1♀
„ *elgonensis* Sharpe	—	—	—	—	—	—	—	—
„ *eupompe eupompe* Klug	23♂	8♀	20♂	2♀	7♂	4♀	1♂	1♀
„ *evippe* f. *evippe* Linn.	1♂	—	9♂	1♀	37♂	—	—	—
„ *achine* f. *achine* Cram.	6♂	4♀	6♂	2♀	1♂	—	—	—
„ spec.	6♂	3♀	8♂	2♀	6♂	2♀	—	—
„ *antigone* f. *antigone* Boisd.	2♂	2♀	8♂	2♀	16♂	11♀	—	—
„ *evarne* f. *evarne* Klug	5♂	4♀	—	—	10♂	3♀	—	—
„ *auxo* f. *auxo* Lucas	15♂	5♀	7♂	—	30♂	12♀	1♂	—
Eronia cleodora f. *cleria* Hew.	6		—	—	20		—	—
„ *leda* f. *leda* Boisd.	13♂	3♀	—	—	6♂	—	8♂	1♀
Lucerania argia f. *argia* Fabr.	—	—	—	—	—	—	—	—
„ *phacis* Boisd.	1		—	—	—	—	—	—
„ *thalassina* Boisd.	—		—	—	—	—	—	—
„ *buqueti* f. *capensis* Hopff.	3		—	—	—	—	—	—
Catopsilia florella Fabr.	11♂	14♀	3♂	3♀	1♂	3♀	1♂	1♀
Terias senegalensis f. temp. *hisinuata* Butler	8		17		16		1	
„ *desjardinsi* f. *regularis* Boisd.	5		6		4		—	
„ *brigitta* f. *brigitta* Cram.	8		26		20		2	
Colias electo Linn.	19		—		—		—	

Nyangori I. 1. 11. 02 –5. 12. 02.	Nyangori II. 27. 1. 03.	Nyangori III. 25. 3. 03 –26. 4. 03.	Tiriki Hills 20. 2. 03 –20. 3. 03.	Usemi May 1903.	Entebbe April 1–12, 1903.	Toro Nov. Dec. 1900.
2	—	—	3	—	1	—
—	—	—	—	—	—	—
—	—	—	10	—	2	4♂ 1♀
2	—	—	—	—	—	1
—	—	2	—	—	—	—
1♂ —	—	1♂ —	32♂ —	—	—	17♂ —
— —	—	— —	43♂ 6♀	—	—	— —
— —	—	— —	1♂ —	5♂ 1♀	—	1♂ —
8♂ 1♀	—	1♂ —	3♂ 2♀	4♂ 5♀	—	27♂ 1♀
— —	—	— —	1	— —	—	8
— —	—	— —	27♂ 4♀	— 1♀	—	17♂ —
1♂ 1♀	—	4♂ —	16♂ 7♀	9♂ 3♀	—	3♂
— —	—	— —	— —	— —	—	14
— —	—	— —	— —	— —	—	—
— —	—	3	—	— —	—	31
— —	4	—	—	— —	—	—
— —	—	—	—	— —		34
— —	—	—	—	— —	—	4
— —	—	—	—	— —	—	1
— —	—	—	—	— —	—	—
— —	—	—	—	— —	1	12
— —	—	—	—	— —	—	—
— —	—	—	—	— —	—	—
— —	—	—	—	3	—	1
— —	—	—	—	—	—	—
— —	—	—	—	—	—	—
— —	—	—	—	—	—	—
— —	—	—	—	6♂ 3♀	—	—
— —	—	—	1♂ —	—	—	1♂ —
— —	—	—	— —	2♂ —	—	— —
— —	—	—	2♂ —	3♂ —	—	1♂ —
— —	—	—	— —	— 2♀	—	2♂ —
— —	—	—	— —	2♂ —	—	— —
— —	—	—	— —	11♂ 4♀		— —
— —	—	—	— —	5♂ 1♀	—	— —
— —	—	—	— —	7♂ 2♀		— —
— —	—	—	— —	— 1♀	—	12♂ —
6♂ 5♀	—	5♂ 4♀	7♂ 2♀	— —	—	— —
— —	—	—	2	— —	—	— —
1♂ —	—	—	3♂ —	— —	—	— —
— —	—	—	— —	— —	—	— —
25♂ 31♀	—	—	5♂ 4♀	6♂ 2♀	—	17♂ 4♀
5	—	4	2	3	6	8
8	—	—	2	4		16
5	—	—	—	28		—
1	—	—	—	—		—

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27, 1902.	Kisumu I. 25. 11. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
PAPILIONIDAE.				
Papilio rex Oberth.	—	—	—	—
„ „ f. intermediate toward *mimeticus* Rothsch.	—	—	—	—
„ „ *nobilis* Rogenh.	1	—	—	—
„ *dardanus* Brown.	1 ♂ —	—	—	2 ♂ —
„ „ ♀-f. *hippocoon* Fabr.	— —	—	—	— —
„ „ ♀-f. *planemoides* Trim.	— —	—	—	— —
„ „ *homeyeri* Plotz	— —	—	—	— —
„ „ *cynorta* Fabr.	— —	—	—	— —
„ „ *peculiaris* spec. nov.	— —	—	—	— —
„ „ *zenobia zenobia* Fabr.	— —	—	—	— —
„ „ *gallienus whitnalli* nov.	— —	—	—	— —
„ „ *hesperus* Westw.	— —	—	—	— —
„ „ *mackinnoni* Sharpe	— —	—	—	— —
„ „ *phorcas phorcas* Cram.	1	—	—	— —
„ „ „ ♀-f. *thersander* Fabr.	—	—	—	— —
„ „ *niveus niveus* Linn.	—	—	—	— —
„ „ *lyaeus* Dbl.	1	—	—	— —
„ „ *bromius brontes* Dbl. & Godm.	3	—	—	— —
„ „ *demodocus* Esp.	2	—	9	1
„ „ *menestheus lormieri* Dist.	—	—	—	—
„ *vidleyanus* White	—	—	—	—
„ *pylades* f. *angolanus* Fabr.	32	1	—	—
„ *leonidas leonidas* Fabr.	—	—	—	—
„ *policenes* Cram.	—	—	—	—
HESPERIIDAE.				
Sarangesa djaelaelae Wallgr.	3	—	—	2
„ *perpaupera* Holl.	7	—	5	5
„ *synestalmenus* Karsch.	1	—	—	—
„ *pertusa* Mab.	1	—	5	—
„ sp.?	—	—	—	—
„ *thecla* Plötz?	—	—	—	—
Celaenorrhinus opalinus Butler	3	—	—	—
„ *proximus* Mab.	—	—	—	1
Tagiades flesus Fabr.	—	—	—	—
„ *lacteus* Mab.	—	—	—	—
Eagris plicata Butler	—	—	—	—
„ *lucetia* Hew.	—	—	—	—
Caprona canopus Trim.	3	—	—	—
Hesperia spio Linn.	—	—	—	—
„ *machacosa* Butler	—	—	3	1
„ *ploetzi* Auriv.	—	—	—	—
Carcharodus elma Trim.		—	—	1

Nyangori I. 1. 11. 02 -5. 12. 03.	Nyangori II 27. 1. 03.	Nyangori III. 20. 3. 03 –26. 4. 03.	Tiriki Hills 23. 2. 03 –20. 3. 03.	Usemi May 1903.	Entebbe April 1 12, 1903.	Toro Nov.-Dec. 1900.
2♂ —	—	—	—	—	—	—
2♂ 2♀	—	—	—	—	—	—
—	—	—	—	—	—	—
17♂ —	—	7♂ —	6♂ —	—	10♂ —	3♂ —
2	—	3	2	—	— —	— —
1	—	—	—	—	— —	— —
2♂ —	—	2♂ 1♀	22♂ —	—	1♂ —	6♂ 2♀
— —	—	— —	— —	—	— —	7♂ 1♀
— —	—	— —	— —	—	— 1♀	— —
— —	—	— —	— —	—	— —	49
— —	—	— —	— —	—	6	—
— —	—	— —	— —	—	3	—
— —	—	— —	26	—	—	—
11	—	2	9♂ 2♀	—	—	7
1	—	—	— —	—	—	—
13	—	2	— —	—	6	14
2	—	—	— —	—	3	—
6	1	2	28	—	1	10
6	—	3	1	1	5	8
—	—	—	4	—	6	—
—	—	—	—	—	4	4♂ 1♀
1	—	5	—	—	—	— —
1	—	3	—	—	3	1
11	—	4	6	—	1	—
—	—	—	—	—	—	—
6	—	3	2	—	1	1
—	—	—	—	1	—	—
—	—	—	—	1	—	—
—	—	—	—	—	—	2
2	—	—	—	—	—	—
1	—	—	2	—	1	—
—	—	—	1	—	—	2
8	—	1	—	—	3	—
—	—	—	—	—	—	1
—	—	—	1	—	—	—
2	—	2	—	—	—	—
—	—	—	—	—	—	—
2	—	1	—	—	—	—
1	—	1	1	3	—	—
—	—	—	2	—	—	—
—	—	—	—	—	—	—

	Ugaia Jan. 1–31, 1903.	Kalachonyo Plain Dec. 19–27 1902.	Kisumu I 25. 11. 02 –7. 2. 03.	Kisumu II. 8. 3. 03 –10. 5. 03.
HESPERIIDAE—continued.				
Acleros ploetzi Mab.	—	—	—	—
„ *placidus* Ploetz	—	—	—	—
Oxypalpus ignita Mab.	—	—	—	—
Hypoleucis ophiusa Hew.	—	—	—	—
Cyclopides metis Linn.	—	—	—	—
„ *willemi* Wallgr.	—	2	—	—
„ spec. near *formosus* Butler.	—	—	—	—
„ *trisignatus* spec. nov.	—	—	—	—
„ *midas* Butler	1	—	1	—
„ *lepeletier* Godt.	1	—	—	—
Kedestes mohozutza Wallgr.	3	—	—	—
Gegenes hottentota Godt.	—	—	—	—
„ *obumbrata* Trim.	1	—	—	—
Padraona zena Trim.	1	—	—	—
Chapra mathias Fabr.	2	—	—	—
Parnara barbonica Boisd.	1	—	—	1
„ *detecta* Trim.	—	—	—	1
„ *mirans* Holl.	—	—	—	—
Semalea pulvina Ploetz	1 ♂ —	—	—	—
Baoris mohozutza Wallgr.	—	—	—	—
„ *auritincta* Butler	1	—	—	—
Kedestes albicornis Butler.	1	—	—	—
Parosmodes morantii Trim.	—	—	—	—
Pardaleodes edipus Cram.	—	—	—	—
„ *incerta* Snell.	3	—	—	—
„ *tibius* Hew.	—	—	—	—
Ceratrichia flava Hew.	—	—	—	—
Andronymus philander Hopff.	—	—	—	—
„ *neander* Plotz.	—	—	—	—
Gamia galba Holl.	—	—	—	—
Artitropa margaritata Holl.	—	—	—	—
Rhopalocampta auchises Gerst.	1	—	—	—
„ *forestan* Cram.	5	1	1	1

Note.—Besides the species of *Ipthima* mentioned in the list, there are in the collection specimens of *Ipthima itonia* Hew. from Toro, and of a species allied to, if not the same as, *Ipthima asterope* Klug from Ugaia, Kisumu, and Nyangori.

Nyangori I. 1. 11. 02 –5. 12. 02.	Nyangori II. 27. 1. 03.	Nyangori III. 25. 3. 03 –26. 4. 03.	Tiriki Hills 20. 2. 03 –20. 3. 03.	Usemi May 1903.	Entebbe April 1 12, 1903.	Toro Nov.–Dec. 1900.
—	—	—	1	—	1	-
–	—	—	—	-	1	
—	—	—	-	—		7
—	—	—	–	—	—	1
—	—	—	2	—		2
—	—	—		—		
-	—	—				1
—	—	—	—	—	1	
3	—	1	–	—	–	2
—	—	—	1	—	-	—
	—	—	-	—		—
19 ♂ —	—	—	—	—	—	—
— —	—	—	—	—	–	—
— —	—	—	1	—	–	3
— —	—	–	-	—	1	-
1	—	—	—	—	1	—
—	—	—	—	-	—	1
—	—	—	—	—	—	1
1 ♂ —	—	—	—	—	— 1 ♀	—
— —	—	1	—	—	1	—
— —	—	—	—	1	—	—
— —	—	—	—	—	—	—
1	—	—	—	—	—	—
—	—	—	—	—	1	—
1	—	—	—	—	6	1
—	—	—	—	—	1	—
—	—	—	1 ♂ 1 ♀	—	—	—
1	—	—	— —	—	—	—
—	—	—	— —	—	—	16
—	—	—	— —	—	1	—
—	—	—	— —	—	3	-
—	—	—	— —	—	–	
4	—	—	2	—	1	10

The nomenclature of varieties is not quite consistent, but, owing to my departure for Africa, there was no time to go through the matter again.

SOME NEW AFRICAN *CERAMBYCIDAE*.

BY KARL JORDAN, Ph.D.

AMONG a series of Longicorns submitted to me for identification by Dr. Hauser, Professor at Erlangen, there were several new species, of which I describe the following.

1. **Zamium laevicolle** spec. nov.

♀. Pale fulvous, tarsi and abdomen slightly brownish; pubescence sparse, the insect appearing almost glabrous; each puncture bearing a short hair.

Puncturation of head sparser than in *Z. crocatum* (1888) Pascoe. Antenna reaching middle of elytrum; scape little more than twice as long as broad, segment 3 = 5, not longer than scape, one-fourth longer than 4, this equalling in length 10, segments 5 to 11 compressed, 6 to 10 slightly asymmetrical apically, subdendate. Prothorax a little broader at apex than at base, rather flattened above, with almost evenly rounded sides; puncturation very sparse and indistinct on disc, a little more distinct laterally. Elytrum punctured all over, the punctures smaller than the interspaces; a slightly raised line on disc; apex rounded. Punctures of underside fine and dispersed. Process of mesosternum broad, very little narrowed behind, being as broad at the apex as the midfemur at basal third.

Length, 13 mm.

Hab. Iknitha, British East Africa.

One ♀.

In *Z. crocatum* to which the present species bears a close resemblance, the pronotum is very densely punctured, except the centre of the disc.

2. **Calanthemis hauseri** spec. nov.

♂. Black, antenna and legs rufous, elytrum rufescent. Pubescence of head and under surface rather long, grey. A rounded apical spot laterally on pronotum, another, elongate, behind it at base, and a minute dot between the two spots, but a little more lateral, pulescent pale yellow. On each elytrum the following pubescent grey markings: a short basal median vitta, another below shoulder, an angle-shaped line extending from scutellum to middle of disc, reaching this at basal third of elytrum, then turning towards the side, forming an angle of about 70°: a line starting at basal fourth of suture, running along suture to beyond middle, curving a little away from the suture behind, and then turning at a right angle laterad, reaching the side-margin, this transverse band slightly curved, and (in our only specimen) almost completely separated from the sutural line; a sutural vitta commencing in between the middle one and extending to apex of elytrum, gradually widening behind. On underside a yellowish white lateral vitta extending from forecoxa to end of abdomen, the vitta wider on abdomen than on breast, and the abdominal patches composing it trapeziform.

Tenth segment of antenna a little longer than broad. Prothorax strongly granulose, a little depressed laterally, strongly convex in middle, longer than broad. Elytrum obliquely rounded at apex; outer angle acuminate, sutural one dentate. Underside densely punctured. Hindfemur reaching beyond end of abdomen.

Length, 10 mm.

Hab. Ikutha, British East Africa.

One ♂.

Nearest to *spiloderes* (1903) Jord.

3. **Olenecamptus nubilus** spec. nov.

♂. Similar to *O. battangi* (1901) Villard, the greyish white pubescence denser, the markings smaller, of the same colour as the pubescence, indistinct, different in position; prothorax longer and more strongly wrinkled, elytra more densely punctured, etc. Tawny brown, antenna and legs paler than body, excepting first two segments of former, rather densely pubescent; the pubescence concentrated behind eye to a vestigial vitta, which is continued across thorax, but is hardly discernible; a triangular basal area of elytra, extending from shoulder to shoulder, an antemedian, discal, irregular patch on each, three minute dots, one in middle near suture, the second about 3 mm. from apex, also near suture, the third between these two, but more lateral, greyish white; pubescence denser at sides of elytra than on disc. Sides of breast with an indistinct greyish white, broad vitta; abdomen with two series of indistinct spots on each side.

Segments 4 to 9 of antenna (the others wanting) denticulate beneath, granulation of segments 1 to 4 heavy. Prothorax nearly twice as long as broad (♂), heavily wrinkled. Elytrum obliquely truncate, external angle acuminate.

Hab. Kitui, British East Africa.

One ♂.

4. **Anauxesis simplex** spec. nov.

♂. Similar to *A. calabarica* (1855) Chevr.; more hairy; lateral, ventral, vitta white; antenna not quite twice the length of the body, segments 4 to 6 greyish at base, 7 with greyish pubescence in apical half, not white, the segment itself black, 6 to 11 slightly curved, shorter than in *calabarica* and *atrata* (1855) Chevr.; apex of elytrum truncate-bisinuate, the apical edge being convex in middle and the angles minutely acuminate.

Length, 23 mm.

Hab. Ikutha, British East Africa.

One ♂.

Easily recognised by the antenna and the truncature of the elytrum.

ON A NEW ROCK-WALLABY FROM NORTH-WEST AUSTRALIA.

BY OLDFIELD THOMAS.

IN 1901 Mr. J. T. Tunney, before proceeding to North Australia to collect the mammals of which an account is given in a succeeding paper, obtained a few kangaroos in the northern part of Western Australia (about 22° S., 118° E.).

The specimens are mostly referable to *Macropus rufus* and *M. robustus cervinus*, but in addition there is a skin, unfortunately without skull, of a new *Petrogale* of the large *P. penicillata-lateralis* group.

I propose to call it

Petrogale rothschildi spec. nov.

Size about as in *P. lateralis*. Fur rather shorter and thinner than in that species. Fur of nape reversed forward from withers; general colour of back dull vinaceous brown ("Mars-brown") lightening to brownish white (near "ecru-drab") on the nape. No dark occipital or nuchal stripe. Head dark brown, an ill-defined blackish streak running through the eye from the sides of the muzzle to the base of the ears. Ears wholly dark brown, outside and in. Shoulders with the usual black lateral patch in the axillary region, but without any trace of a whitish patch behind it. Undersurface dull brownish; the throat whitish; the area round pouch buffy. Arms and legs greyish-brown, becoming slightly rufous on the metapodials and black on the ends of the toes. Tail not very bushy, its basal half greyish brown, its distal half covered with mixed black and white hairs.

Dimensions of the typical skin: head and body, 560 mm.; tail 450 mm.; hindfoot, *s.u.* 130 mm.: ear, 52 mm.

Hab. Cossack River, N. of Western Australia.

Type ♀. No. 157. Collected July 23rd, 1901, by J. T. Tunney.

I have named this fine and distinct Rock-Wallaby in honour of the Hon. Walter Rothschild, by whom Mr. Tunney's collecting expedition has been mainly supported, and whose own scientific interest in the Macropodidae is well known.

P. rothschildi is most nearly related to *P. lateralis*, but is readily distinguishable by its dark head and uniformly dark ears, the absence of either nuchal dark stripe or whitish flank patch, and by its shorter thinner fur.

A NEW FORM OF *PROTHOË* FROM THE SOLOMON ISLANDS.

By the Hon. WALTER ROTHSCHILD, Ph.D.

Prothoe ribbei guizonis subsp. nov.

♂ ♀. Differs from *P. r. ribbei* Rothsch., *Nov. Zool.* ii. p. 161 (1895) (Bougainville), especially in the band of the upperside of the forewing, this band having a much more oblique position, standing close to the distal margin behind, and the spots composing it being generally much reduced, except the last, which is very conspicuous. In some specimens only this last spot is distinct (*type*), the discal markings between this spot and the costal margin being partly absent, partly vestigial: in other specimens there are three large triangular spots R^3—SM^2, the series being continued costad by some small dots. Moreover, the subapical spots of the forewing are much more sharply defined than in *ribbei ribbei*.

Hab. Guizo I., Solomon Is., end of October and November 1903 (Messrs. A. S. Meek & Eichhorn).

A series.

10 SEP 1904

NOVITATES ZOOLOGICAE.

Vol XI. SEPTEMBER, 1904. No. 2.

NEW LEPIDOPTERA FROM BRITISH NEW GUINEA.

By GEORGE T. BETHUNE-BAKER, F.L.S., F.Z.S.

(Plates IV. V. VI.)

AT the close of the year 1901 my friend Mr. Kenrick and I arranged with Mr. A. E. Pratt that he and his son should go out to British New Guinea and attempt an entomological exploration of a portion of the Owen Stanley range. Probably none of us realised the extreme difficulties of getting into the interior of the country. As soon as possible after his arrival at Port Moresby, Mr. Pratt started for Hall Sound, and made his way in canoes up the Ethel River to Oofafa, a village as far up that stream as could be navigated; here the overland march and carrier difficulties began.

Mr. Pratt's plan was to make his first collecting camp at Dinawa, a village on the north of the Angabunga River. The most direct trail to this place was through the villages of Epa and Ekeikei. (This Epa must not be confused with Eppa near the River Akevaihi, which is a western tributary of the Aroa River; Epa is probably some ten to fifteen miles north-north-west of Eppa.) The coast tribes absolutely refused to carry inland; but fortunately the chief of Epa is a marked individuality, and soon became very friendly. He is an absolute autocrat, with great power over his people. After some delay he sent down carriers and brought up the loads, and later on was of great assistance in many ways. From here the path lay through a dense forest to Ekeikei, on to Madui, and thence to Dinawa. So thick was the forest that scarcely any light penetrated: "gloomy and most depressing" are Mr. Pratt's words; and as it was raining most of the way not a sound was heard or a sign of life, except an occasional hoarse "wauk wauk" from a disturbed *Paradisea raggiana*. It was almost the last rain of that year (1902), and was followed by one of the longest and most serious droughts yet experienced in that part of the land.

After arrival at Dinawa it was necessary to build a camp, which was a most laborious undertaking, every tree having to be felled and cut up. This first camp was established on one of the spurs of Mount Davidson; later on a second was built some miles to the east. From here our first collections were sent; they were not as large as we expected, but were most interesting, the Heterocera proving to be very rich in new species.

The drought soon became so serious that there was scarcely a green leaf visible, and therefore Mr. Pratt came down to the coast for a time. The difficulties of obtaining carriers again appeared. The villages in the interior, and especially in the mountains, are very small, usually not more than nineteen or twenty huts; the men are scarcely ever willing to work, the women doing most of the carrying and cultivating; and constantly one village is unfriendly with the next one, so

that it is quite evident what trouble is involved in moving from place to place. However, the troubles were overcome, and the first consignment arrived in excellent condition. The drought broke in December 1902, and then Mr. Pratt retraced his steps, stopping a while at Ekeikei, which proved to be a very rich collecting ground and a useful depot. Here, however, as with Mr. Meek (antea p. 310), an epidemic of German measles broke out; fortunately it was scarcely so serious as that from which Mr. Meek suffered later on, for Mr. Pratt managed to keep his camp going, and as soon as possible made for the interior. By this time his son had picked up the language, and carriers were obtained who took the party up to the Kebea range. This mountain, with its various spurs, is some 6000 feet high, and is situated a day's march due east of Dinawa. The main camp was built here for this second expedition, and a much larger and more valuable collection was made and received in excellent condition.

The material now in my hands (i.e. not only that collected by Mr. Pratt, but also that sent by Mr. Meek from the Aroa River) is so considerable that I can only deal with the higher groups down to the Noctuidae, leaving that large group for a later paper. We feel, however, that we can highly compliment Mr. Pratt, not only on the richness of the collections, but also for his great tact in dealing with the natives; this, no doubt, was partly due to his son being able to so soon pick up the language, which fact gave him considerable influence over the villagers, with many of whom he established most friendly intercourse, so that he was thus able to carry on negotiations and deal with turbulent natives in a manner that would have been quite impossible if he could not have conversed with them in their own tongue.

I have followed in the main the arrangement of families obtaining in the National Collection; and I must here express my best thanks both to Sir George Hampson and to Mr. Heron for constant help in working out the collections. My method of measurement has been to take the line from the centre of the thorax to the apex of the primary and to double it.

LYCAENIDAE.

Parelodina gen. nov.

♂. Eyes hairy, palpi ascending, with second segment long, thickly clothed with hair which forms a fringe beneath, end segment moderately long, depressed. Neuration similar to *Candalides* Hübn., except that in the primary veins 7 and 8 on a long stalk rise from the cell well before the upper angle, whilst 11 is curved sharply upwards and touches 12, which latter does not approximate to 11. In Hübner's genus vein 12 is distinctly depressed towards 11 at its (the latter's) origin, whilst 11 is not bent up towards it, but goes straight to the costa, the two veins being quite apart all the way.

Type: *P. aroa* spec. nov.

1. **Parelodina aroa** spec. nov.

♂. Both wings white above, with a very restricted blackish basal area, over which is a considerable irroration of blue scales. The primary has a very broad black apex from the middle of the costa and extending broadly down the termen to vein 2, where it abruptly ends; the costa is black, increasing basewards as well as towards the apex. Beneath, the wings are spotless white, though the black

above shows more or less through, but in the secondary there is a patch of pale orange-brown hair-like scales in the cell.

Expanse : 40 mm.

Hab. Upper Aroa River.

In the Tring Museum. It is a most interesting species, being extremely close to a species of *Elodina* that we have received from the same district and also from other parts of British New Guinea.

The determination of this insect has led me to examine Röber's genus *Philiris*, about which both Mr. H. H. Druce and also Mr. G. A. Waterhouse, of Sydney, have had something to say. Hübner's genus *Candalides* has been known for years, and if we take the first-named species (which is the most convenient custom with the older authors) as his type, *xanthospilos* becomes the type of the genus. Röber has made *ilias* Feld. the type of his genus. The neuration of these two species is precisely the same, the eyes are the same, and also the palpi ; in fact, I can find no structural difference at all save a slight diversity in contour. Under these circumstances I think *Philiris* should sink under *Candalides*.

Parachrysops gen. nov.

♂. Eyes naked, palpi ascending, rather slight, second segment long scaled, end segment long, fine, erect.

Neuration : Primary, vein 2 from about three-fifths from whence the cell is slightly angled ; this vein is strongly curved downwards, 3 from well before the lower angle slightly curved downwards, 7 into the apex stalked at its centre with 8, rising from the cell close to the angle. In the secondary, vein 5 rises from above the middle of the discocellulars.

The neuration of this genus is in the main similar to *Hypochrysops* Feld., with the differences now enumerated. The shape of the wings is quite different to any known genus of the *Lycaenidae*. In the primary the costa is flattened near the base and nearly straight to beyond vein 10, where it is rounded and slightly depressed by the apex ; the termen is nearly straight to vein 4, where it is suddenly produced to 3, receding slightly to 2, and rapidly from thence to the tornus ; the secondary is a long oval shape somewhat similar to the secondary of *Euselasia eutychus* Hew., with the costa slightly flattened ; the termen also is somewhat flattened from the apex to vein 5, whilst the inner margin is straight.

Type : *P. bicolor* spec. nov.

12. **Parachrysops bicolor** spec. nov.

♂. Eyes brown ; palpi black above, white below ; frons crimson.

Primary above uniformly black, with a white patch occupying the tornal half of the inner margin. Secondary pure white, with a very restricted dusky base. Below, the primary is whitish, with a broad dark termen and inner margin. Secondary entirely white.

Expanse : 42 mm.

Hab. Upper Aroa River.

In the Tring Museum.

It is unlike any other species or genus with which I am acquainted.

ERYCINIDAE.

3. **Dicalleneura ekeikei** spec. nov.

♂. Head and thorax dark brown. Wings, *upperside*: Primary dark brown, with a golden bronze suffusion over the basal third. Secondary orange-yellow, with a broad dark brown costa, and a black spot between veins 2 and 3 at the elongated part of the termen. *Underside* of the primary deep crimson red with a broad dark grey inner margin; a small white patch at the base, a white dash across the cell followed by a broad white oblique band at the end of the cell, beyond this a pair of white small spearhead spots by the costa, and two oblique dashes below veins 4 and 3; a postmedial oblique slightly curved row of white spots, with three spots by the termen below the apex; all the spots slightly silvery in their whiteness. Secondary orange-yellow, with a very broad purplish brown costa and a suffusion of purplish below the cell and above the tornus; a longitudinal broad white central stripe from the extreme base, forked along veins 2 and 3, a shorter white dash beyond the centre of the costa, and a curved white dash on the inner margin from the base, meeting the central stripe on vein 2; a fine whitish dash closing the cell; a row of four or five white spots from the apex to vein 2, followed by a marginal row of black dashes edged with silvery white, with a black spot as on the upperside, but edged on the outside with silvery white, the ground-colour at the tornus above this row broadly lemon-yellow.

♀. Primary, *above*, blackish brown, with a very broad, transverse, white patch curved on the outside, occupying nearly half of the wing; fringe white for the apical half. Secondary dark brown with a large white costal patch near the apex, a small white submarginal spot between veins 3 and 4; fringe white, interrupted with brown. *Underside*: primary brownish red, with the large white patch as on the upperside, a white basal dash in the cell, the other marks as in the *male*. Secondary, brownish red with the white costal patch as on the upperside, and the termen narrowly yellow; all the other markings and spots as in the *male*.

Expanse: ♂ 47 mm., ♀ 50 mm.

Hab. Ekeikei, March and April.

In my collection. It is a beautiful species, the longitudinal stripes below differentiating it from any other of the genus.

BOMBYCIDAE.

4. **Gunda kebeae** spec. nov. (Pl. IV. f. 32).

♂. Head and thorax yellow; abdomen brown, with a cream-coloured anal tuft; legs brown; antennae blackish.

Primary, *above*, yellow tinged with orange, with a trace of a short postmedial brownish purple fascia, caused by an undersurface stripe showing through, with a large terminal patch of the same colour from below the apex to vein 2; fringe same colour as the ground. Secondary yellow tinged with orange, with a trace of a postmedial stripe, and a slight submarginal scaling of brownish purple, and between them is a finer and more definite purplish line; fringes purplish. Below the colours are just the same, with a more marked postmedial stripe, a

submarginal curved finer stripe and the terminal patch in the primary; whilst in the secondary all the markings are more distinct.

Expanse: 50 mm.

Hab. Mt. Kebea, March to April.

One ♂ in my collection.

5. **Guuda aroa** spec. nov.

♀. Frons and thorax blackish brown; collar and patagiae pale ochreous grey; abdomen blackish brown with anal extremity white.

Primary blackish brown, *above*, with costa broadly ochreous grey to beyond the cell, medial area with a brownish tinge. Secondary blackish, with apex and termen broadly brown to near the inner angle. *Under surface* of forewing, basal half orange-yellow, terminal half blackish; secondary blackish, with terminal area broadly brown.

Expanse: 55 mm.

Hab. Upper Aroa River, February.

In the Tring Museum.

EUPTEROTIDAE.

Pseudodreata gen. nov.

♂. Palpi hairy, upturned, end segment depressed. Antennae bipectinate, gently tapering to the tips. Legs with one pair of small spurs on both mid- and hindtibiae.

Primary with one internal vein, 6 from the upper angle of cell, 7 and 8 stalked, 9 and 10 stalked, a very short bar from 8 to 9 forming an areole nearly as long as the cell, 10 and 11 from the cell. Secondary with four internal veins, 4 and 5 from the lower end of the cell, 6 and 7 from the upper angle, 8 from the base, with a shortish oblique bar close to the base connecting it with 7. The costa is arched, and the posterior margin rounded. Frenulum present.

Type: *P. strigata* spec. nov.

6. **Pseudodreata strigata** spec. nov. (Pl. V. f. 45).

♂. Head ochreous brown; frons and palpi greyish brown; thorax and abdomen orange-brown; legs with femora hairy; tibiae and tarsi almost bare, the former orange-red, the latter dark grey.

Primary, *above*, orange-brown, the orange tinge being evanescent beyond the middle, with faint basal and medial parallel curved irregular transverse dark stripes; in the medial stripe in the cell is a black spot pupilled with whitish, followed at the end of the cell by a similar larger spot; a distinct postmedial blackish transverse stripe from the costa to the inner margin angled on vein 7, edged exteriorly by an obscure orange-brown stripe; on the costa adjoining the interior of the blackish stripe is a small patch of lavender-grey scales, beyond this stripe is another fine scalloped black stripe edged on its exterior with a slight border of lavender-grey scales, this is followed by a fine paler scalloped line, the ground between the two being rather paler brown, whilst beyond the paler line the ground is decidedly darker up to the tip of the fringes: apex with

a patch of lavender-grey scales. Secondary, orange-brown with a broad black costa, below which is an orange-coloured stripe, slightly increasing in width from the base to the outer margin; a black spot at the end of the cell, a transverse broad oblique black stripe beyond the cell, followed by a fine blackish scalloped line edged exteriorly by pale orange-brown: submarginal line pale, rather indefinite, marked out by the veins being scaled with lavender-grey. The veins in both the wings are dark grey beyond the medial area.

Underside of both wings orange-red, with dark grey veins more or less covered with pale grey scales. Primary with all the pattern above darkly marked out, except the basal and medial lines, which are absent; there is a larger patch of greyish scales at the apex, and the submarginal line below the apex is greyer. Secondary with the stripe beyond the cell very prominent, the black spot at the end of the cell is distinctly pupilled with white, and there is another small black spot nearer the base; a row of black dots on the veins marks the position of the scalloped line on the upperside; there is also a slight grey scaling in the apical area.

Expanse: 63 to 64 mm.

Hab. Dinawa.

Type in my collection. Also in the Tring Museum from the Upper Aroa River.

Melanergon gen. nov.

♀. Head hairy, palpi absent. Antennae shortly pectinate with cilia. Legs densely hairy to extremity of tarsus.

Neuration: Primary, vein 2 from the middle of the cell, 3 from well before angle, 4 from the angle, 5 absent, 6, 7, 8, 9, 10 stalked, 11 from cell lying directly below 12 at first and almost on 10 for the terminal half; cell very short. Secondary with two internal veins, 2 from near the middle of cell, 3 from before the angle, 4 from the angle, 5 stalked with 6 and 7, 8 appressed at the base, then quite free.

Type: *M. proserpina* spec. nov.

7. **Melanergon proserpina** spec. nov.

♀. Head, thorax, and abdomen black, hairy and rough. Both wings black above, subdiaphanous, being covered with black hairs, which are shorter in the interspaces of the veins and longer on the veins and margins, with broad diaphanous postmedial band through both wings.

Expanse: 70 mm.

Hab. Upper Aroa River, February.

In the Tring Museum.

8. **Hypercydas caeliloma** Turner.

Two specimens of this insect are in the Tring Museum from the Aroa River, taken one in February and one in April. There is one in the National Collection from Kapaur, whilst the type is in the Queensland Museum. It is subject to a good deal of variation. One of the Tring specimens is quite bright red-brown, with the scalloped line strongly accentuated and almost lemon-yellow, in the other specimen the line is whitish and the colour browner, whilst the specimen in the British Museum is browner still.

NOTODONTIDAE.

9. **Tarsolepis sommeri dinawensis** subspec. nov.

♂. Like *sommeri*, except that the margin of the secondaries is spotted with dark grey, and the femoral tuft of the hindleg is not scarlet, but is pale ochreous, that is the same colour as the undersurface of the specimens.

Hab. Dinawa.

The species is not uncommon in the month of August, and the differences are quite constant in both sexes, making an interesting and good local race.

Pseudogargetta gen. nov.

Head roughly haired. Palpi thickly scaled, upturned end segment small, deflexed. Antennae pectinated with cilia for two-thirds in ♂, shortly pectinate and without cilia in ♀. Thorax with anterior tuft, tarsi nearly bare in ♂. Mid-tibiae with one pair, hindtibiae with two pairs of spurs. Legs in ♀ very densely clothed with long rough hairs and tarsi shortly scaled. Abdomen of ♂ with an anterior tuft on the dorsum and an anal tuft.

Neuration: Primary, vein 2 from two-fifths, 3 well before angle, 4 from angle, 5 from above the middle of the discocellulars, 6 from near centre of areole, 7 from end of areole, 8 and 9 on a long stalk, 10 from end of areole, 11 from cell. Secondary, 2 from about two-thirds, 3 and 4 from angle, 5 from centre of discocellulars, 6 and 7 stalked, very short in ♂, longer in ♀, 8 adjacent to cell to near middle.

Type: *P. diversa* spec. nov.

10. **Pseudogargetta diversa** spec. nov. (Pl. V. f. 4. ♂).

♂. Head and palpi reddish brown, collar very deep red-brown, with a dividing pale occipital edging in the middle. Thorax ochreous grey, with a dark brown anterior tuft. Abdomen darker brown, with a pale anal tuft.

Primary, *above*, ochreous grey, slightly suffused with reddish brown, giving a mottled appearance: a trace of a basal line, a stigma below the centre of the cell with dark lateral edges, the basal edge straight, the exterior edge curved, an oblique row of three dark lunules from the upper angle of the cell towards the apex; terminal area paler, strongly curved towards the tornus; a distinct row of dark subterminal spots; termen darkly edged in the nerve interspaces. Secondary, uniform pale brownish grey.

♀. Head, palpi, and antennae reddish brown. Thorax dark slaty brown, with anterior tuft. Abdomen brown. Primary dark slaty brown, with paler brown subbasal, postcellular, and postmedial areas. All the ♂ markings are present, but much more prominent, with the exception of the subterminal row of spots, which is obscure, with much smaller spots; the fringes are tesselated brown and whitish. Secondary uniformly dark brown, very hairy at the base.

Expanse: ♂ 47 mm., ♀ 71 mm.

Hab. Dinawa, May and June, ♂; Ekeikei, March and April, ♀.

The sexes of this species are at first sight very unlike, the *female* being more than half as large again as the *male*, and being a very dark black-looking insect, whilst the *male* is slight and comparatively pale.

11. **Osica turneri** spec. nov. (Pl. VI. f. 31).

♂. Head roughly haired, ochreous grey, hairs tipped with dark brown. Palpi pale brown. Occiput flattened. Thorax pale ochreous brown, with an anterior very dark brown triangular patch between the patagiae. Abdomen brownish. Legs pale brownish, barred with dark brown.

Primary, *above*, pale ochreous grey, suffused with brownish along the costal and inner marginal areas; a dark subbasal broad band ending in a blackish dash on the inner margin; stigma at end of cell slightly darker, edged laterally with blackish, beyond which is a very oblique dark stripe to the inner margin; a slightly curved, double postmedial row of obscure dots and lunules, with a dark patch in front of the tornus; a subterminal row of dark dots, costal area before the apex streaked with dark dashes. Secondary uniformly brownish.

♀. Similar to the *male*, but darker, with much darker inner margin, and the cell-stigma is laterally edged with whitish as well; the markings are otherwise very obscure, except the subterminal row of dots, whilst in front of this row there is a broadish band of dark irrorations. The secondary is also decidedly darker than in the *male*.

Expanse: ♂ 54, ♀ 60 mm.

Hab. Dinawa, August and September, ♂; Ekeikei, January and February, ♀.

12. **Osica funerea** spec. nov.

Head pale ochreous brown. Palpi blackish grey, end of second and third segments ochreous-grey, collar reddish brown. Thorax dark grey. Abdomen grey.

Primary, *above*, dark grey, irrorated thickly with blackish; a subbasal and antemedial blackish line; a pale grey discal stigma edged on each side with red brown and with a whitish central dividing line, beyond which is a distinct curved dentate blackish line, beyond which is a postmedial dotted line, followed by a dark band of the ground-colour; a submarginal row of blackish dots; termen dark, interrupted at each vein. Secondary uniformly dark grey, with pale fringes.

Expanse, 60 mm.

Hab. Upper Aroa River, April.

In the Tring Museum; two specimens.

Further material may show that this insect is a subspecies of *O. glauca* Walk.

13. **Cascera bella** spec. nov. (Pl. V. f. 44. ♂).

♂. Head and palpi pinkish ochreous. Collar pinkish, tipped with green, with an outer edging of whitish. Thorax pale pinkish brown with green patagiae, with a white V-shaped stripe, one side of the V much longer than the other. Abdomen pale pinkish brown.

Primary, *above*, greenish, with numerous rich brown and white marks; a basal broken dark spot followed by a whitish patch, sometimes only a whitish streak, below which is a dark brown velvety patch with a black edging below; an irregular dark spot at the end of the cell, well below and forward of which is a marked white patch edged below by a twice-curved black line, which margins above a large dark greenish brown patch extending to near the inner margin and confluent with an indefinite irregular broad stripe from close to the apex; a sharply defined irregular white subterminal line from the apex to the tornus, outside which are

seven irregular dark marginal spots ; terminal line whitish ; the inner margin has several dark marks, and the costa is marked irregularly with whitish, and dark spots and dashes. Secondary uniform pinkish brown.

♀. Exactly like the *male*, but with the markings less broken up.

Expanse : ♂ and ♀, 46 to 52 mm.

Hab. Dinawa and Mount Kebea ; Ekeikei. Also in the Tring Museum from the Aroa River.

It appears to fly generally in March and April, but I received one specimen in our first consignment from Dinawa which was taken in August.

Hirsutopalpis gen. nov.

♂. Palpi very long and hairy, upturned, second segment long, hairy, with its extremity fringed with very long hairs, end-segment long, erect, hairy. Head with a long tuft of hairs, slightly projected forwards. Antennae long, with fine short bristles to the end. Legs with femora long-haired, tibiae and tarsi short-haired, midtibiae with one pair, hindtibiae two pairs of spurs, both these tarsi spined their whole length.

Neuration : Primary, vein 2 from towards the base of cell, 3 from well before the angle, 4 from the angle, 5 just above the angle, 6 from below the upper angle, 7, 8, 9, and 10 stalked, 11 very long from towards the base of cell. Secondary, vein 2 from middle of the cell, 3 from well before the angle, 4 and 5 from about the angle, 6 and 7 from the upper angle, 8 coincident with cell to near its middle, thence curved to apex.

Type : *H. fasciata* spec. nov.

14. **Hirsutopalpis fasciata** spec. nov.

♂. Head, palpi, and abdomen brownish grey, palpi irrorated with dark brown. Thorax ochreous grey, with collar dark rust-coloured ; pectus dark grey.

Primary, *above*, ochreous grey, with a small subbasal costal comma-like mark ; an antemedial oblique dark line in the centre of the wing ; an oblique broad rusty-brown streak very broad and dark on the inner margin, evanescent towards the costa, followed by a double oblique irregular paler rusty-brown line ; two separated serrated postmedial rather obscure lines, a submarginal row of blackish dots and two blackish dots at the end of the cell. Tornus with a broad dark patch and a very dark rusty spot on the termen between veins 3 and 4 ; a large subapical costal pale rusty patch. Secondary pale ochreous grey, with a dark, very broad grey terminal area and traces of fine antemedial, two medial, and postmedial lines.

Expanse, 52 mm.

Hab. Ekeikei, January and February ; Dinawa, August.

15. **Omichlis hampsoni** spec. nov. (Pl. V. f. 2).

♂. Frons lavender-grey, occiput tawny, palpi pale tawny, darker at tips. Antennae pectinated two-thirds, branches tawny, shoulders lavender-grey edged with tawny, patagiae lavender-grey, thorax tawny, abdomen brownish, with a tawny tuft at the base edged with lavender-grey.

Primary, *above*, with base and costal half to the end of the cell bright tawny, irrorated darkly with the same colour; a basal toothed line, an outwardly oblique medial line not extending beyond the tawny area, and an oval spot at the end of the cell. Beyond this tawny area, which terminates abruptly in a dark oblique curved line, the colour is lavender-grey, receding to near the base and occupying the lower half of the wing. Below the cell it is darker than in the terminal area; from the middle of the cell is a trace of a paler stripe to the inner margin, with a postmedial white spotted oblique angled stripe, prominent for the costal half, but obscure as it nears the inner margin. Outside this is a short darkly dotted row to vein 4 from the costa, with a white outer edge, followed by a tawny apical patch: a fine subterminal scalloped dark line edged interiorly with white. Secondary uniformly brownish, with a tawny and white-edged spot at the anal angle; fringes grey.

Expanse, 49 mm.

Hab. Dinawa, May and June.

Two specimens.

16. **Omichlis dinawa** spec. nov. (Pl. V. f. 3).

♂. Head and collar tawny ochraceous. Palpi ochraceous, tipped with tawny brown. Thorax pale chestnut-brown. Abdomen brownish ochraceous, with a small chestnut tuft at the base.

Primary, *above*, ochreous, more or less entirely suffused with pale tawny brown, so that the ochreous only appears as an apical patch and an indefinite stripe from the end of the cell to the inner angle; a row of five dark basal spots ending at the lower margin of the cell, the middle spot projected basewards and the lower two nearly confluent; a double row of four antemedial indefinite dark spots or short linear dashes; a short oblique indefinite medial stripe, followed by a distinct one at the end of the cell, beyond which is another shorter spotted one. Outside this is a curved double row of distinct blackish spots, the outer row the smaller of the two; a subterminal row of dark spots or short dashes in the nerve spaces, with a dark terminal spot on veins 4, 6, and 7, the two latter being small. Near the inner angle is a reddish-brown patch. Secondary ochreous, suffused all over with tawny except on the inner margin.

Expanse: 43 mm.

Hab. Dinawa, September.

One specimen.

17. **Omichlis ochracea** spec. nov. (Pl. V. f. 6. ♂).

♂. Head, palpi, thorax, and abdomen pale ochraceous; antennae reddish brown.

Primary, *above*, pale ochraceous, with the lower margin of the cell and vein 4 prominently marked in dark reddish brown; a short strongly excurved basal line; two dark antemedial dots, one below the costa and one on vein 1; a medial interrupted reddish-brown stripe, followed by another prominent one excurved beyond the cell. Outside this is a similar, less prominent postmedial line; the ground between these three stripes is much suffused with reddish brown, forming a prominent spot at the end of the cell, with a very dark spot in the postmedial line between veins 2 and 3. Beyond these lines is a broad excurved suffusion of

very pale tawny brown ; a subterminal line of reddish-brown dashes in the nerve spaces. Secondary pale ochreous, suffused with warm reddish brown except on inner marginal area, with a slight suffusion of dark reddish scales along vein 1*b* and on the fringes near the anal angle.

♀. Similar to the *male*, but entirely suffused with pale reddish brown and with all the markings, except the subterminal row, very faintly discernible, whilst the secondary is entirely suffused with reddish brown.

Expanse : ♂ 45, ♀ 43 mm.

Hab. Ekeikei and Mount Kebea.

The ♂ from Ekeikei occurred in January and February, at about 1500 ft., whilst the ♀ from Kebea (6000 ft.) was taken in March.

18. **Omichlis griseola** spec. nov. (Pl. V. f. 7).

♂. Head, thorax, and abdomen brownish grey, the last the darkest in colour.

Primary, *above*, pale brownish grey, with a dark grey subbasal dash ; a series of four or five irregular antemedial dark grey points ; a trace of an oblique medial stripe angulated from the cell basewards to costa and inner margin, at the point of angulation an oval stigma at the end of the cell ; a postmedial curved series of seven or eight dark points ; a submarginal row of dark marks in the nerve spaces. On the costa at two-thirds is a dark spot, and a short dark grey dash is on the termen at vein 4. Secondary, darker greyish brown, pale at the anal angle, with dark scales above it on the inner margin.

Expanse : 42 mm.

Hab. Ekeikei, January and February.

I have also a specimen of this species from Dinawa, taken in May or June, in which the medial angulated stripe is quite prominent.

19. **Omichlis pratti** spec. nov. (Pl. V. f. 5).

♂. Head, thorax, and abdomen greyish brown.

Primary, *above*, ochreous grey suffused more or less closely all over with pale brownish irrorations ; an irregular row of four dark antemedial dots ; a medial oblique brown stripe angulated in the cell, with a paler stigma at the end of the cell ; a large dark grey subapical patch extending from the costa to the termen, and enclosing a pale ochreous grey apical patch ; a short grey costal dash beyond the medial line, a postmedial row of black points, and a submarginal row of dark lunules in the nerve interspaces. Secondary brownish, with pale inner margin, and with several spots of dark scales up vein 1.

Expanse : 42 mm.

Hab. Ekeikei, January and February.

20. **Omichlis rufofasciata** spec. nov. (Pl. VI. f. 17).

♂. Head grey ; palpi rufous, fringed with grey ; collar and thorax rufous ; patagia grey internally tipped with rufous ; abdomen brownish, with a small rufous tuft at the base ; legs pale greyish, with cinnamon-brown tarsi ringed with creamy white.

Primary, *above*, pale whitish grey, with a very broad rufous brown oblique fascia across the centre of the wing, with a large outward projection beyond the cell ; from this fascia to the base the inner margin is rufous, a very slight and short

subbasal rufous line from the costa, a small rufous costal spot before the central fascia, beyond which (fascia) are two larger rufous spots : a subterminal indefinite rufous lunular line, and a blackish spot on the extremity of vein 4. Secondary uniform darkish cinnamon-brown, anal area pale grey, with three rufous spots up the inner margin.

♀. Similar to *male*, but lavender-grey instead of whitish grey, and the fascia and marks are more rufous and less brown, whilst the secondary is paler.

Expanse : ♂ 42, ♀ 48 mm.

Hab. Mount Kebea, March or April, ♂ ; Ekeikei, March, ♀.

A very marked species.

21. **Stauropus viridissimus** spec. nov. (Pl. IV. f. 1. ♂).

♂. Head greenish ; thorax green, mixed with grey ; abdomen brown, with a a dark anterior tuft tipped with greenish, and a broad dorsal patch of pale bright green on the eighth segment. The antennae have green shafts with red pectinations.

Primary, *above*, pale green throughout, with an antemedial double toothed line, a single medial line, between which and the former the ground is darkly irrorated with grey, and has three raised dark spots in or near the cell, a double postmedial curved line, a very oblique row of whitish raised spots from near the apex to the postmedial line at the inner margin ; subapical area between the two last-mentioned lines sparingly irrorated with greyish. Termen darkly spotted. Secondary brown for the inner three-fifths, green for the costal two-fifths, with the usual *Stauropus* apical mark.

♀. Similar to the male, but with more and darker grey irrorations, with the two stigmata at the cell prominently raised, and the double postmedial line strongly serrate on each vein.

Expanse : ♂ 50, ♀ 64 mm.

Hab. Dinawa. Ekeikei, March and April.

22. **Stauropus kebeae** spec. nov. (Pl. V. f. 52).

♂. Head pinkish grey ; palpi red-brown, tipped with greyish ; collar pale grey ; thorax reddish brown ; patagiae irrorated with greenish grey; abdomen reddish brown, with an anterior patch or small tuft of deep red-brown.

Primary, *above*, reddish brown, with an interrupted antemedial double dark grey line, and an oblique postmedial double blackish line, the interspace in the latter being dark grey ; in the cell at the end is a double pale stigma, and below the centre of the cell is another pale stigma ; the costal area to about the end of the cell is palely suffused ; a trace of a subterminal blackish line. Secondary slightly reddish brown, with a broad blackish patch at the apex and a pale whitish grey costa. Fringe intersected with white.

♀. Similar to the *male*, but in the primary there is no pale suffusion on the costa, only a slight grey irroration, showing the brown surface through ; all the pattern is much more distinct, the antemedial double line being filled with dark grey in the interspace like the postmedial double line, whilst the subterminal line is prominently marked and black.

Expanse : ♂, 44 ; ♀, 60 mm.

Hab. Mount Kebea, March and April ; in the Tring Museum, from the Upper Aroa River.

23. **Stauropus dubiosus** spec. nov. (Pl. VI. f. 39. ♀).

♂. Head and thorax grizzled; palpi dark brown, fringed with cream-colour; abdomen brownish grey, with dark anterior segment.

Primary, *above*, grizzly brown, with an obscure dark basal line, a double antemedial, and a very irregular and rather interrupted postmedial line: subterminal line distinct and irregular; there is a good deal of metallic green irroration over much of the wing. Secondary reddish brown, with a paler costa and iridescent green darkly margined apical patch.

♀. Similar to the *male*, with the antemedial line slightly shifted forwards and oblique so as to be a medial double line: the area between the postmedial and subterminal lines is more or less covered with pale greyish irrorations. This sex is rougher and more mottled-looking than the *male*.

Expanse: ♂, 48; ♀, 58 mm.

Hab. Mount Kebea, a series taken in March and April; Ekeikei, January to March.

24. **Stauropus bella** spec. nov. (Pl. IV. f. 14).

♀. Head and thorax mauve-grey: palpi chocolate-brown, tipped with pinkish grey.

Primary, *above*, greyish mauve or lavender-grey (a very pretty colour, difficult to express accurately), more or less irrorated with metallic green; the basal area showing through a slight chocolate-coloured suffusion; a postmedial oblique row of broad chocolate-coloured dashes from vein 3 to the inner margin, with three similar marks on the costa beyond the cell; apex and termen chocolate-brown. Secondary whitish, with a very broad terminal area of the same colour as the primary, with the usual apical patch.

Expanse: 41 mm.

Hab. Ekeikei, January and February.

24. **Stauropus dinawa** spec. nov. (Pl. IV. f. 17).

♂. Head, palpi, and antennae reddish brown; thorax darker reddish brown, and abdomen paler.

Primary, *above*, dark grey, with the tips of the scales finely metallic pale green or pale grey; the greater portion are metallic green, but the pale grey colour is quite distinct in small patches among the fine green irrorations; the costal half of the base is metallic ochreous green, the basal half and extending to the inner angle is covered with deep red, having scales longer than the rest of the wing scales, through which is visible a trace of the basal line, and a greenish patch in the centre of the inner margin and a darker greenish patch edged with whitish exteriorly near the inner angle: there is on the costa an obscure dark patch between the cell and the apex. Secondary pale whitish, buff-coloured, with a broad dark outer and costal margin and an apical patch of metallic green scales, the costa having an irroration of the grey-tipped scales also.

Expanse: 40 mm.

Hab. Dinawa; also in the Tring Museum from the upper Aroa River.

This is an unusual-looking species; the mixture of the fine metallic green-tipped scales with the grey-tipped ones gives it a mottled appearance; the deep red velvety scales along the inner margin should make it easily recognisable.

26. **Stauropus pratti** spec. nov. (Pl. IV. f. 18).

♂. Head and palpi ochreous, tinged with red in parts; antennae with red bipectination; thorax ochreous green; abdomen brown.

Primary, *above*, greenish, ochreous on the outer margin; the basal stripe is oblique, white, edged on each side with black, and does not extend above the cell; a medial slightly curved black line, between which and the basal line the ground-colour is darker; postmedial line black, curved round the end of the cell, then straight to the inner margin; beyond this a similar obscure paler line slightly edged with dusky grey; a submarginal row of dark indefinite spots, paler on their interior side; a blackish spot in front of the apex; margin distinctly spotted with dark grey, with pale interior edging; fringes ochreous. Secondary ochreous brown; costa and apex green, with a short oblique apical double black stripe.

Underside: Primary dusky grey, with a prominent ochreous costa. Secondary uniformly pale ochreous.

Expanse: 38 mm.

Hab. Ekeikei; also in the Tring Museum from the Upper Aroa River.

27. **Notodonta irrorativiridis** spec. nov. (Pl. V. f. 8).

♀. Head, palpi, and antennae reddish; thorax reddish brown, striped with black and metallic green, with the centre greyish; the patagia alternately striped with black and green; abdomen reddish brown.

Primary, *above*, greyish brown, with a broadish basal stripe of metallic green in the cell and on the inner margin; a large patch beyond the cell, extending over a large whitish spot, which shows through; a submarginal short serrated stripe between veins 3 and 6, and a marginal irregular stripe, all of the same colour; a trace of a basal serrated black line, a double oblique black medial line followed by several irregular black small spots below the large whitish spot, a trace of a strongly serrated postmedial black line, a long black dash from the lower end of the cell to near the outer margin; in the middle of the costa are three or four black spots, and below them a line of the iridescent green scales extends its whole length. Secondary, uniform very pale brown.

Underside: Primary uniformly pale reddish brown, darker in the cell. Secondary whitish, slightly brown on the costa.

Expanse: 62 mm.

Hab. Dinawa, May and June.

Lasioceros gen nov.

♂. Eyes hairy, tongue developed, palpi curved upwards, reaching to vertex, end segment short; antennae rapidly dilated at a fifth to nearly four-fifths, convex on the front and concave inversely; the concavity for its whole length is fringed and covered with very long hairs; terminal part almost simple, but the whole of the convex side is thickly clothed with very fine bristles to the tip; terminal segment of abdomen probably tufted (the condition of the abdomen is not good); legs smooth, long, and slight; forelegs unusually long, midtibiae with one pair, hindtibiae with two pairs of spurs.

Neuration: Primary, vein 2 from near but beyond the middle, 3 long before angle, 4 from the angle, 5 directly above the angle, 6 from the upper angle, 7 from

the areole, 8 and 9 stalked from close to apex from the areole, 10 from the areole, areole very short, 11 from the cell. Secondary, vein 2 from about two-thirds, 3 and 4 from the angle, 5 from below the middle of the discocellulars, 6 and 7 stalked, 8 anastomosing with 7 for a third of the cell. Wings long and narrow, apex almost hooked, outer margin evenly rounded.

Type : *L. aroa* spec. nov.

28. **Lasioceros aroa** spec. nov.

♂. Head and collar very dark brownish grey ; antennae rufous on the one side, with very long black hairs on the other side ; thorax pale grey ; abdomen pale brownish white with dark extremity.

Primary, *above*, brownish grey, with the basal half of the costa broadly whitish grey indefinitely merging into the browner area ; subapical costal area whitish grey. The upper margin of the cell has a basal and subbasal black spot followed by several black points, with a trace of a reniform spot at the end of the cell, followed by a short blackish dash, beyond which is a postmedial curved row of blackish dots, evanescent below vein 3 ; the outer half of the costa has five black dots evenly distributed ; termen darkly dotted. On vein 1*b* at one-fourth is a dark spot, followed beyond the middle on the inner margin successively by a whitish and a darkish patch. Secondary pale brownish grey, darker towards the termen.

Expanse : 42 mm.

Hab. Upper Aroa River, April.

In the Tring Museum, one specimen.

29. **Cerura multipunctata** spec. nov. (Pl. VI. f. 9).

Head, frons, and collar white ; thorax white, with a double row of three black spots down the centre, and two broad black spots on the patagia ; abdomen black, with a central dorsal tuft of fine white hairs at the segmental divisions ; anal tuft white, banded with black ; pectus and antennae black.

Primary, *above*, white, with an isolated black spot at the base below the patagia ; a basal row of four irregular black spots ; three medial transverse rows of black spots : the first row is of four, the second of five, and the third of eight, the two on the costa joining and making a diagonal > shaped mark ; the postmedial row is of seven or eight spots, and between this and the previous row are three black spots below vein 2 ; the submarginal row is composed of broad dashes rather than spots ; in front of the apex is a short black stripe almost touching the submarginal row ; posterior margin spotted with black between the veins. Secondary dark grey, blackish at the apex and on the inner margin.

Expanse : 70 mm.

Hab. Dinawa, May and June.

CYMATOPHORIDAE.

30. **Thyatira dinawa** spec. nov. (Pl. V. f. 43).

♂. Head whitish ; collar brown, with a white inner lining ; thorax brown, with the patagia edged with white ; abdomen whitish, with a grey anal tuft.

Primary, *above*, brown, with the base white, extending into a broad curved

stripe along the lower edge of the cell; a large whitish apical patch, below which on the inner margin is a small creamy patch, the two being obscurely joined by a trace of a very fine double whitish line; a small brown subapical costal spot in the white patch; the upper margin of the cell has a dark stripe. There is a trace of a very fine submarginal serrated line. Secondary white, with a broad apical patch extending halfway down the outer margin.

Underside: Primary darkish brown, with the costa spotted with white, the inner margin white below the cell. Secondary just as the upperside.

Expanse: 33 mm.

Hab. Dinawa, September.

31. **Thyatira ekeikei** spec. nov. (Pl. IV. f. 31).

♀. Head greenish; palpi pinkish; thorax ochreous grey, very finely and sparingly irrorated with brown; abdomen cream-coloured at base, darker brown towards the extremity, with a dark patch on each side of the dorsum before the middle.

Primary, *above*, greenish, irrorated in parts with black; a pale ochreous grey patch at the base, and in the middle of the inner margin, with a double fine edging of white and black on one side; a small pale chestnut patch at the tornus, and a small and a large chestnut spot in the cell; an apical patch of olive-green edged internally by a white line with a dark brown suffusion, followed by an ochreous, grey crescent edged internally by a white and black crescentic line; from the costa before the cell-spots is a short serrate black line, and a longer subterminal serrate black line from the spot at the tornus. Secondary grey for the basal half, blackish for the terminal half, with a brownish-grey costa and apex.

Expanse: 40 mm.

Hab. Ekeikei, January and February.

SYNTOMIDAE.

32. **Ceryx subformicina** spec. nov.

♂. Frons yellow; occiput black; collar yellow; thorax black; patagiae yellow; metathorax yellow; abdomen black, with segmental divisions yellow, not meeting on the ventral surface.

Primary, *above*, black with a long hyaline spot in the cell, beneath another hyaline spot reaching to the termen, beneath this above the tornus is a small hyaline dash, above veins 3 and 4 an elongate hyaline spot, above 6 another elongate hyaline spot, above 7 a smaller spot. Secondary with two large hyaline spots below the cell divided by vein 2, with base and the cell pale lemon-yellow.

♀ like the *male*, but with a hyaline spot in the angle above vein 2.

Expanse, 31—32 mm.

Hab. Upper Aroa River.

In the Tring Museum.

33. **Ceryx aroa** spec. nov.

♀. Head, frons, and antennae black; thorax also black, with a yellow-orange spot on the patagiae and metathorax; abdomen brownish black, with a subdorsal and a ventral row of yellow-orange spots; legs blackish brown.

Wings blackish brown *above*. Primary with a long pear-shaped hyaline spot in the cell, a large elongate patch below the cell expanding before the middle, end rounded; below this a narrow hyaline dash, a small hyaline spot in the angle of veins 2 and 3, an elongate spot above veins 3 and 4, a long elongate spot above vein 6, and a shorter one above 7. Secondary with a hyaline spot below vein 2, and another between 2 and 5. Base of both wings slightly yellowish.

Expanse: 28 to 33 mm.

Hab. Upper Aroa River, March.

In the Tring Museum.

34. **Ceryx swinhoei** spec. nov.

♂. Head, antennae, thorax, and abdomen blackish: patagiae with a single yellow spot; foretarsi cream-coloured interiorly. Both wings blackish brown.

Primary with a long wedge-shaped spot in the cell, and another expanding patch below it; an elongate spot below veins 3 and 4, an elongate spot above vein 6, and a small wedge-shaped one above 7. Secondary, a hyaline spot below vein 2 and a smaller one below 5.

♀. Like the *male*, only larger, and the outline of the primary is produced forward between veins 1 and 3, and the foretarsi are brownish.

Expanse: ♂ 26, ♀ 32 mm.

Hab. Upper Aroa River, February and March.

In the Tring Museum.

Paraceryx gen. nov.

♂ ♀. Proboscis well developed; palpi minute; antennae simple; legs with a small pair of spurs on midtibiae, two small pairs on hindtibiae.

Neuration: Primary, vein 2 from three-fourths along the cell, 3 from before the angle, 4 from the angle, 5 above the angle, veins 2 and 3 bowed downwards towards termen, 5 upwards, 6 from below angle, 7, 8, 9, 10, and 11 stalked. Secondary with cell long, vein 2 from before middle of cell, 3 from before end of cell, 5 from the angle, 7 forming a very short stalk with 8. The inner margin produced into a prominent lobe.

Type: *P. aroa* spec. nov.

35. **Paraceryx aroa** spec. nov.

♂. Head, frons, thorax blackish; shoulders orange yellow; abdomen steely bluish black; legs blackish.

Wings steely black; a wedge-shaped hyaline spot in the cell of the primary, a large expanding patch below the cell, ovate spots below veins 4 and 5, an elongate spot above vein 6, and a small spot above 7. Secondary with no hyaline spots, steely black, with the inner marginal lobe with cream-coloured fringes.

♀. Similar to the *male*, but brown.

Expanse: ♂, 30; ♀, 34 mm.

Hab. Upper Aroa River, March.

In the Tring Museum.

COSSIDAE.

Parazeuzera gen. nov.

♂. Palpi present, roughly haired; antennae finely serrate; legs roughly haired; tarsi bare, with a heavy pencil of hairs at the extremities; tibiae spurred moderately. Wings narrow.

Neuration: Primary with vein 2 from two-thirds, 3 from well before the angle, 4 from the angle, 5 above the angle, 6 and 7 from the upper angle, 7 and 8 on a long stalk, 9 and 10 from the cell near the angle, 11 long from near the base of cell. Two recurrent veins in the cell. Secondary with vein 2 from beyond the middle, 3 from well before the angle, 4 from the angle, 5 from above the angle, 6 from below the upper angle, 7 from the upper angle, an erect bar to 8; two recurrent veins in the cell.

Type: *P. celaena* spec. nov.

36. **Parazeuzera celaena** spec. nov. (Pl. V. f. 9. ♂).

♂. Head, palpi, and thorax black; collar and forepart of patagiae with an intermixture of golden-brown hairs, with golden-brown tufts on the thorax; abdomen black-ringed, with golden brown at the base; pectus yellow; legs hairy, black; tarsi bare, yellowish, with black tufts at the extremities.

Primary dark grey, with fine black reticulations, and blackish spots and patches, inner marginal area mostly blackish to two-thirds; four blackish costal patches, the fourth terminating in a black spot at the end of the cell; costa black at the apex. Fringes tesselated black and grey. Secondary dark brown, with a slight bronzy lustre.

Underside dark brown, tinged at the base with golden brown.

Expanse: 40 mm.

Hab. Dinawa, August.

One ♂.

37. **Parazeuzera aurea** spec. nov. (Pl. V. f. 10).

♂. Head, palpi, thorax, abdomen, and legs pale golden brown, slightly lustrous.

Primary the same colour, with indications of one or two darker spots, one at the end of the cell, and darker scales in the inner marginal area. Secondary pale greyish, tinged with yellow. The terminal areas of both wings are devoid of scales, but I believe it is owing to the specimen being worn.

Expanse: 40 mm.

Hab. Dinawa, September.

LIMACODIDÆ.

38. **Scopelodes dinawa** spec. nov. (Pl. V. f. 48).

♂. Head and thorax dark olive-brown, antennae ochreous, palpi reddish brown, with the brush paler, tipped with black; legs dark olive-brown, abdomen yellow, dorsal segmental divisions dark brown, anal tuft blackish.

Primary, *above*, olive-brown, finely irrorated with greyish. Secondary paler brown on the costa and posterior part of the wing, yellow for the innermarginal half extending well into the cell; the veins stand out yellow in the brown area.

Below the wings are a peculiar sooty brown, with the same area yellow as above; all the veins stand out ochreous on the dark ground.

Expanse: 41 to 45 mm.

Hab. Dinawa, August.

This may be a subspecies of *venosa* Wlk., and is not unlike the form occurring in Sikhim and Silhet, but has much more yellow on the hindwing, and, as far as our series goes, it is quite constant, and is much smaller than any local form that I can trace the records of. It appears to be a fairly common insect in the Owen Stanley Range.

39. **Scopelodes nitens** spec. nov. (Pl. V. f. 51).

Head pale smoky grey, palpi slightly darker, brush grey with whitish tips, finely tipped with grey; thorax whitish, abdomen unicolorous, shining ochreous, legs pale smoky grey.

Primary pale shining brownish grey. Secondary very pale ochreous grey.

Expanse: 42 mm.

The type is in my collection from Dinawa.

40. **Birthama dinawa** spec. nov. (Pl. V. f. 33).

♀. Head, thorax, abdomen, palpi, and antennae darkish red-brown.

Primary with the basal two-thirds reddish, edged by a very oblique pale stripe from near the apex to the centre of the inner margin, followed by a broad dark oblique parallel stripe, beyond which the wing is quite pale pinkish brown. Secondary uniform dusky reddish brown.

Expanse: 32 mm.

The type is in my collection from Dinawa, August.

More material might prove this insect to be a subspecies of *obliqua* Wlk., but the colouring is abundantly distinct.

41. **Contheyla pratti** spec. nov. (Pl. V. f. 46).

♂. Head, thorax, abdomen, palpi, and antennae dark red-brown, thorax and abdomen rough and hairy.

Primary with three-quarters of the wing dark red-brown, edged by a fine obliqne darker line angulated basewards on vein 5, the posterior area beyond this paler reddish brown; below the cell, beyond its centre, are two obscure blackish spots below each other. Secondary dull paler reddish brown.

Expanse: 46 mm.

Hab. Dinawa, August.

42. **Contheyla ekeikei** spec. nov.

♂. Head, thorax, and abdomen reddish brown.

Primary reddish brown, with a small dark spot at the end of the cell, followed by an oblique dark stripe; here and there are a few isolated superimposed dark scales. Secondary uniform paler reddish brown.

Expanse: 32 mm.

Hab. Ekeikei, March and April.

The type is in my collection.

43. **Contheyla birthama** spec. nov.

♀. Head, thorax, and abdomen reddish brown.

Primary with the basal third in a decreasing line up to the apex, and the terminal area reddish brown, the former being margined by a straight very oblique dark line into the apex, and the latter by a waved dark line to near the tornus, the area between these two lines being much paler, and slightly ochreous, with a rust-red spot at the lower angle of the cell. Secondary uniform pale pinkish brown.

Expanse : 34 mm.

Hab. Ekeikei, January and February.

The type is in my collection.

44. **Narosa aroa** spec. nov.

♂. Head and thorax reddish yellow ; abdomen greyish, with a reddish anal tuft.

Primary reddish ochre, with the medial area having more and pinker scales than the rest of the wing. Secondary pale ochreous grey. The wings are but thinly clothed with scales, which easily rub off, leaving them quite diaphanous in places.

♀. Similar to the *male*, but greyer, and without the pinkish medial area, and with an obscure fine dark postmedial line.

Expanse : ♂ 18, ♀ 23 mm.

The type is in the Tring Museum from the Aroa River, March.

Dinawa gen. nov.

Antennae bipectinated for the basal half ; palpi small, deflexed in male, porrect in female ; legs densely haired.

Primary, veins 7, 8, 9, 10 stalked. Costa somewhat excavated. Secondary, veins 6, 7 stalked.

Type : *D. rufa*.

45. **Dinawa rufa** spec. nov. (Pl. V. f. 32).

♂. Head reddish orange, frons pale reddish brown, palpi dark reddish brown, slightly deflexed ; thorax and abdomen pale reddish brown, the latter with a red dorsal tuft by the thorax ; legs densely hairy and reddish ; all the tarsi ringed with pale ochreous at the joints.

Primary pale reddish brown, with a darkish grey curved stripe edged on the exterior with pinkish white, extending from the apex to vein 1 near the base ; the posterior margin near the apex is dusted with dark grey scales. Fringes reddish brown edged with white. Secondary very pale pinkish.

Expanse : 28 mm.

Hab. Dinawa, July and September.

46. **Dinawa nigricans** spec. nov. (Pl. V. f. 11).

♂. Head, thorax, abdomen sooty brown, tinged with purplish—head paler than the rest ; palpi purplish tipped with blackish ; antennae bipectinated to the tip ; legs thickly clothed with purplish hair ; tarsi paler, almost bare.

Primary sooty brown tinged with purplish, with an oblique dark stripe palely edged on the inner side from just in front of the apex to the inner margin parallel with posterior margin. Secondary dark sooty grey, with a fine blackish margin and paler fringes.

Expanse: 25 to 26 mm.

Hab. Dinawa, August and September.

Pygmaeomorpha gen. nov.

Antennae bipectinated three-fifths the length; palpi porrect, inclined slightly upwards, reaching beyond the frons.

Primary with veins 7, 8, 9, 10 stalked all to the posterior margin below the apex; 11 bent upwards and running below 12 to the apex. Secondary with veins 6 and 7 stalked.

Type: *Pygmaeomorpha modesta* spec. nov.

47. **Pygmaeomorpha modesta** spec. nov. (Pl. V. f. 35).

♂. Head and thorax pale pinkish grey-brown, abdomen darker, legs dark purplish brown ringed with ochreous.

Primary pinkish mauvy greyish brown, with a small white dot beyond the lower end of the cell; a very oblique transverse slightly interrupted fine dark purplish brown stripe touches the inner edge of the white dot, from which dot it rapidly recedes basewards, and reaches the inner margin beyond the middle, nearer the base; beyond this is a broad somewhat indefinite dark purplish brown stripe, from the costa just in front of the apex to the inner angle, palely edged for its upper portion on its exterior; a small dark patch occupies the apex, the posterior margin is finely palely edged; fringes pinkish grey, with a dark dividing line. Secondary mauvy grey, darker near the posterior margin. Fringes paler, with a darker dividing line. On the underside the veins all show rather palely ochreous.

Expanse: 28 mm.

Hab. Dinawa, August.

The type is in my collection.

48. **Pygmaeomorpha brunnea** spec. nov. (Pl. V. f. 34).

♂. Head and thorax darkish red brown, abdomen rather paler, legs pale, hindlegs with a very dark brown tuft of long hairs on the upperside of the tibiae and first joints of tarsi.

Primary pale, slightly ochreous brown, basal half suffused with darkish rufous brown scales, and edged by a very dark brown jagged fine stripe; near the base of this darker area is a broad indefinite very dark brown transverse stripe, and the cell also is darkly edged above and below; near the outer margin is a fine transverse angled stripe from the costa to the inner margin; posterior margin rather broadly darker and darkly dotted on each vein; fringes darkly tesselated. Secondary paler ochreous brown, margin darkly finely dotted on each vein. Under surface unicolorous pale brownish grey; primary rather the darker.

Hab. Dinawa, August.

The type is in my collection.

Lasiolimacos gen. nov.

♂. Palpi hairy, upturned, reaching beyond the frons; antennae deeply bipectinated, rapidly tapering at halfway, where they are serrated to the tip; legs hairy, mid and hind pair very hairy, the latter with a thick brush on the tibiae and halfway down the tarsi; middle tibiae with one pair of spurs, hind tibiae with two pair.

Primary with two internal veins: 1*b* forked at the base; vein 5 free from the base, thus completely dividing the cell, and emitting above it a fine forked veinlet halfway along the cell to the discocellulars, vein 6 from cell above the centre, 7, 8, 9, 10 forked, 11 from cell to very near the apex, 12 to about midway between the end of cell and the apex. Secondary with three internal veins: 2, 3, 4 and 5 from lower part of cell, vein 5 free from the base thus completely dividing the cell, 6 and 7 stalked; close to the base a very short bar from 7 to 8 forming a minute secondary cell; vein 8 with numerous veinlets, several being forked and long; frenulum present.

Type: *Lasiolimacos pratti* spec. nov.

49. **Lasiolimacos pratti** spec. nov. (Pl. VI. f. 32).

♂. Head and thorax ochreous grey (commonly called buff) with a prominent dark reddish-brown stripe down the centre; antennae ochreous grey; palpi hairy reddish-brown; abdomen pale brownish, darker down the dorsum; legs very hairy, ochreous grey, fore and mid legs with front dark reddish brown, hind legs with tibial brushes conspicuously spotted with very dark reddish brown; tarsi reddish brown. Both wings ochreous grey, sparingly irrorated with dark scales, but in the secondaries there is only the least trace of these scales.

Primary with a deep reddish-brown patch close to the base on the costa; a third along the inner margin is an oblique short dark reddish-brown dash with a slight reddish suffusion on the margin (when the insect is at rest these dashes meet over the back, where they join the dark stripe on the thorax, and are most conspicuous): a blackish spot is at the end of the cell; the apex has a reddish-brown wedge-shaped patch; whence a curved line descends and is met by a similar curved line from above the anal angle, forming a bracket-shaped mark } with the centre continued basewards to just below the spot closing the cell. Secondary slightly more reddish than the primaries, with a darker suffused cloud in the centre extending to the posterior margin, but without any markings. Fringes of both wings ochreous, with intersections of dark red-brown tufts of scales. Underside with secondary irrorated all over with rough reddish-brown scales, more especially in the centre of the wing.

♀. With both wings rather redder than the male, the markings are similar but there is a trace of a dark very interrupted stripe from the inner-marginal dash to the apex, whilst the bracket-shaped mark near the posterior margin is very obscured.

Expanse: ♂ 38-40, ♀ 50 mm.

Hab. Dinawa, August and September, and Ekeikei, January and February.

50. **Lasiolimacos kenricki** spec. nov. (Pl. VI. f. 33).

♂. Head, palpi, and antennae dark reddish brown, thorax ochreous with a broad dark reddish-brown stripe, patagiae irrorated with reddish brown; abdomen

ochreous, darker above; forelegs hairy, thickly irrorated with dark reddish-brown scales, mid and hind legs irrorated and ringed with dark reddish brown, tarsi dark.

Primary ochreous, thickly irrorated with reddish brown, making the general colour reddish ochreous; on the costa close to the base is a short curved dark transverse dash, a dark spot at the end of the cell, apex clouded with reddish brown from which a straight oblique dark red-brown stripe extends to the inner margin a third from the base; another finer oblique line extends from the same spot to near the anal angle; this line is indented in the middle, whence it is connected with the other oblique stripe by a short dark line. Posterior margin finely dark, fringes paler, finely darkly spotted, with dark edging. Secondary pale ochreous, very slightly darker in the centre; posterior margin finely dark, fringes paler, darkly dotted with dark edging. Underside irrorated thickly with dark grey, especially in the costal area, with dark reddish cloudy patch beyond the lower end of the cell; at the upper extremity of the cell is a small dark spot, inner-marginal area pale ochreous without the dark irrorations.

♀. Precisely like the *male*, but a little darker and without the short curved basal dash on the costa. Underside the same as the *male* with the addition of a dark spot nearer the base than that at the upper end of the cell; there is, however, an indication of this spot in some *males*.

Expanse: ♂ 35—39, ♀ 47 mm.

Hab. Dinawa, also from the Aroa River (Tring Museum).

The type is in my collection.

This species, which flies at the same time exactly as the previous one, *L. pratti*, has a strong superficial resemblance to it; at rest, with the wings closed, they however look quite distinct; the marked oblique straight line in this species, and the absence of the dark inner-marginal dash, which is so conspicuous a feature in *pratti* when at rest, separate them immediately from each other; then also the underside of the secondary is very different.

51. **Lasiolimacos ferruginea** spec. nov. (Pl. V. f. 50).

♂. Head, palpi, and thorax pale ochreous brown, abdomen ochreous pale brown, with dorsum reddish. Antennae pale ochreous brown, shortly pectinated for a third.

Primary pale ochreous brown, suffused almost entirely with rough lustrous reddish brown, thick scales, with a terminal broad wedge-shaped patch of finer chestnut-coloured scales, above which is a subapical yellow spot, whilst the scaling of the centre of the inner margin is also paler. Secondary pale whitish ochreous deepening into reddish towards the termen. A small dark prominent spot at the upper end of the cell, yet more prominent below than above.

Expanse, 37 mm.

Hab. Ekeikei, January—February.

The type is in my collection.

Nervicompressa gen. nov.

♂. Palpi very small, heavily haired, deflexed; legs thickly clothed with hair.

Primary short, very broad, posterior margin nearly straight, cell extremely short and small, decidedly less than a third of the wing. Vein 4 from the lower angle of the cell, 5, 6, 7, 8 and 9 stalked, 9 rising nearer the apex than 7, almost at right angles to 8, and lying compressed below 10, which for its whole length lies

compressed beneath 12, thus forming a secondary cell nearly three times as large as the abortively small proper cell, so as to almost form the costa itself. Secondary, vein 5 from the upper angle of the cell, 6 and 7 stalked, 8 free from base, no bar between it and 7. Cell extremely short and small. Frenulum present.

Type: *N. unistrigata* spec. nov.

52. **Nervicompressa unistrigata** spec. nov. (Pl. IV. f. 5).

♂. Head and thorax darkish brown, palpi blackish deflexed.

Primary ochre-brown, with a broad dark grey-brown nearly straight stripe, across the wing, beyond the centre, from costa to inner margin. Secondary ochre-yellow with an oblique dark stripe right across the wing rather in front of the centre.

Underside: in the secondary the stripe is more marked than above, and beyond it is a waved slightly reddish indistinct stripe, beyond which the colour is paler.

♀. Similar to the *male*, but paler in all respects.

Expanse: ♂ 43, ♀ 39 mm.

Hab. Dinawa, July to September.

The type is in my collection.

53. **Nervicompressa lunulata** spec. nov. (Pl. IV. f. 4).

♂. Head and thorax dark (somewhat reddish) brown, abdomen bright orange-brown.

Primary dark (somewhat reddish) brown for the basal two-thirds, with a curved lunulated margin, beyond which the colour is ochreous, a transverse dark band near the centre of the wing; in the posterior ochreous area is a pale lunulated broad greyish transverse stripe with a dark dot on the veins at each lunule, a dark red-brown patch just below the apex on the posterior margin, fringes dark at apex, paler near the anal angle. Secondary slightly reddish brown for the basal two-thirds, beyond which the colour is ochreous. A dark brown transverse stripe in the middle of the brown area; this area with a dark lunulated margin, next which is a lunulated band of pale ochreous, darkly dotted at each lunule, paler than the outer margin; fringes reddish brown.

Underside: Primary reddish ochreous, a dark dot at the end of the cell, with all the pattern showing more or less strongly through. Secondary orange-coloured, the dark curved stripe much more distinct and diffused as to its outer margin; three dark reddish brown strongly lunulated transverse stripes, beyond which the ground colour is irrorated with dark scales.

♀. Primary pale brownish grey, with two obscure darker transverse bands, beyond which is a row of dark dots, with a darker subapical area. Secondary ochreous with two waved darker transverse stripes, between which is a short row of dark spotted shading; the ochreous area terminates in a dark lunular edging, beyond which the posterior margin is pale purplish brown.

Underside: primary as the *male*; secondary with the median area very broadly purplish, with yellowish centre, beyond which is a lunular purple stripe, edged broadly with orange, posterior area pale purplish brown—the underside of the abdomen is tinged with crimson.

Expanse: ♂ 45, ♀ 42 mm.

Hab. Dinawa, August; also from the Aroa River (Tring Museum).

The type is in my collection.

54. **Nervicompressa albomaculata** spec. nov. (Pl. IV. f. 3).

♂. Head and thorax reddish brown, abdomen more orange in colour.

Primary warm red-brown for the basal three-quarters, edged by a lunulated spotted stripe of pale grey which has a fine dark margin to the costa, beyond which the colour is pale greyish; at the end of the cell is a prominent round whitish spot, the apex has a whitish patch on the costal portion, below the apex on the posterior margin is a dark red-brown patch. Secondary paler reddish brown, with a lunulated spotted transverse pale yellowish stripe somewhat near the posterior margin.

Underside: Primary paler uniform reddish brown all over, with all the marks showing through except the round whitish spot, which is barely discernible; secondary rather darker than the primary, with the lunulated stripe more pronounced.

Expanse: 46 mm.

Hab. Dinawa, August.

The type is in my collection.

55. **Nervicompressa dubia** spec. nov. (Pl. IV. f. 19).

♂. Head reddish brown, thorax very dark reddish brown, abdomen deep orange.

Primary pale buff, darker in terminal area with a waved purplish medial stripe; a curved indefinite mauve suffused line, edged obscurely with yellowish, with a fine very indistinct dark margin, beyond which is a row of dark dashes on each vein; a subapical purplish wedge-shaped terminal patch. Secondary orange yellow, with a lunulate postmedial line, followed by a row of dark dashes on each vein.

Under surface: Primary yellowish, with three transverse lines, and the subapical patch as above. Secondary orange, with a purplish costa and a very prominent medial stripe, followed by three lunulated stripes.

Expanse: 41 mm.

Hab. Dinawa, September.

The type is in my collection.

56. **Nervicompressa kebeae** spec. nov. (Pl. IV. f. 10).

♂. Head and thorax pale cinnamon-brown, abdomen deep orange, legs orange-yellow with black tarsi, antennae blackish.

Primary cinnamon-brown, paler in the medial area, with a straight oblique dark purplish brown medial stripe, followed by a slightly curved narrower like-coloured postmedial line palely edged externally, in which edging is a row of dark dots on each vein, apex with a darker suffusion, fringes dark purplish, pale at the tornus. Secondary orange-colour, with a trace of a medial line, a suffused lunulated postmedial stripe palely edged externally, with a row of dark dots on the veins, fringes dark purplish.

Under surface: Primary yellowish, with the two transverse stripes as above, but less prominent, with a purplish terminal suffusion very dark at the apex. Secondary deeper than above, suffused all over except on the inner margin with fine purplish irrorations, with the pattern as above, but much more prominent.

Expanse: 42 mm.

Hab. Kebea, March and April.

The type is in my collection.

57. **Nervicompressa aroa** spec. nov. (Pl. IV. f. 6).

♂. Head and thorax chocolate brown, abdomen orange-red above, laterally and ventrally spotted with black, with a central dark streak below.

Primary chocolate brown, with a whitish spot in the cell, beyond which is a whitish transverse stripe rising in a large costal whitish patch, a broad medial band of the ground colour, with a strongly scalloped outer margin, with a double alternate scalloped edging of dark and pale brownish, a cream-coloured apical patch, with a dark reddish subapical blotch on the termen, below which the termen is broadly pale. Secondary orange brown, with an antemedial dark stripe, and a series of four scalloped stripes alternating orange and reddish, termen broadly dark.

Expanse: 48 mm.

Hab. Aroa River.

The type is in the Tring Museum. There are several specimens in the collection. This species has the appearance of being a hybrid between *N. lunulata* and *albomaculata*; but there are three specimens before me, so doubtless it is a good race.

Lasiochara gen. nov.

♂. Palpi minute, antennae deeply bipectinate for a quarter, then suddenly minutely serrate, but so minute as to look almost simple; legs very hairy indeed, no tibial spurs.

Primary with two internal veins, 1*a* absent; cell divided by a veinlet, 6 from middle of cell, 7, 8 and 9 stalked, 10 from end of cell, 11 long to near the apex. Secondary, with three internal veins, cell divided by a veinlet, 3, 4 and 5 from lower portion of cell, 6 and 7 stalked, 8 bent down, touching 7 close to the base, with several very short veinlets after the point of contact. Frenulum present.

Type: *L. pulchra* spec. nov.

58. **Lasiochara pulchra** spec. nov. (Pl. V. f. 49).

♂. Head, thorax, and abdomen reddish ochreous, legs densely clothed with long purplish lilac hairs, tarsi ochreous.

Primary with the basal third pinkish lilac, outer two-thirds pale pinkish brown, with a postmedial pinkish fine serrated transverse line from costa to inner margin, veins pinkish up to this line. Secondary uniform lilac pink, with no marks.

Underside uniform pale brownish pink.

Expanse: 42—48 mm.

Hab. Dinawa, August and September.

The type is in my collection.

Squamosala gen. nov.

Palpi upturned, reaching beyond the frons; antennae bipectinated to tip; legs hairy, tarsi bare and long, mid leg with one pair of spurs on the tibia, hind leg with two pairs of spurs on the tibia.

Primary with apex rounded, two internal veins, cell divided all its length, veins 4 and 5 from near the lower angle, vein 6 from above the middle, veins 7, 8

and 9 stalked, vein 10 from immediately before the upper angle of the cell, vein 11 long bent upward towards vein 12, and reaching nearly as far as 10. Secondary with three internal veins—vein 4 from the extremity of the cell, veins 3 and 5 from just below and above it respectively, 6 and 7 stalked, a bar to 7 from the cell, vein 8 free from base. Frenulum present.

Type: *S. nigrostigmata* spec. nov.

59. **Squamosala nigrostigmata** spec. nov. (Pl. V. f. 47).

♂. Head, palpi, and antennae pale reddish brown, head and palpi rough and hairy, thorax darker reddish brown, with very dark central stripe, abdomen paler, but with darker dorsal area.

Primary pale reddish ochreous, the basal two-thirds covered with darker rough reddish scales, with a slight irroration of superimposed fine black scales in parts, the species having thus a very rough appearance; below the costa beyond the cell is a black stigma pupilled with reddish, below which is an irregular black stripe to the inner margin. Secondary pale reddish ochreous.

Expanse: 39 mm.

Hab. Dinawa, August.

Family *LASIOCAMPIDAE.*

Cycethra gen. nov.

♀. Palpi small, hairy, antennae shortly pectinated to the tip and with cilia.

Neuration: primary 1*b* forked to near a quarter, 2 from the middle of the cell, 3 from long before angle, 4 well before angle, 5 from angle, 6 from upper angle, 7 from beyond middle of areole, 8 and 9 separate from end of areole, united by a bar to form areole, which is unusually long, reaching to near apex, 10 from well in front of end of areole, 11 long from cell. Secondary with one internal vein, 2 from near middle of cell, 3 from well in front of angle, 4 from the angle, 5 from above the angle, 6 from the upper angle, 7 from the cell, 8 quite free. Frenulum absent.

Type: *C. aroa* spec. nov.

60. **Cycethra aroa** spec. nov.

♀. Head, palpi, thorax, and abdomen reddish-brown.

Primary reddish brown, sparingly clothed with scales so as to appear subhyaline, with two obscure dark round spots in the cell, and a postmedial dark grey nearly straight stripe, palely edged internally, beyond which the ground colour is greyish. Secondary with two obscure dark grey spots in the cell, that nearer the base being very obscure; the marks of the primary are precisely carried through the secondary.

Hab. Aroa River, January 1903.

The termen is too torn to enable me to give the exact expanse, but the unique type is not less than 105 mm. It is in the Tring Museum.

The genus is very aberrant, belonging neither to the *Limacodidae* nor correctly to the *Lasiocampidae*, as it has only one internal vein to the secondary, but as the frenulum is absent it will be better to include it in the latter family.

61. **Taragama dinawa** spec. nov. (Pl. IV. f. 8).

♂. Head, palpi, thorax, and abdomen dull reddish brown, antennae rather paler.

Primary reddish brown, with the basal half of a very deep dark brown, edged by a fine oblique pale stripe, roughly parallel with the outer margin, a postmedial row of greyish lunular marks, those near the anal angle palely edged internally. Secondary dark smoky brown, with a straight oblique pale stripe from the apex to the inner margin, fringes whitish.

Underside both wings reddish brown, the basal half of each decidedly darker and redder brown, bordered externally by a dusky stripe, which is itself edged externally by an obscure paler stripe.

Expanse : 44—46 mm.

Hab. Dinawa. Taken in May and June, and again in August and September.

The type is in my collection.

62. **Taragama rubiginea** spec. nov. (Pl. IV. f. 2).

♂. Head dark red, palpi and antennae greyish brown, thorax bright red, abdomen reddish brown with a dark anal tuft, legs hairy reddish brown with bare tarsi encircled with whitish.

Primary bright darkish red, with a subbasal and medial obscure dark grey slightly curved transverse line; the postmedial line is dark grey, straight and erect from the costa to the inner margin just in front of the inner angle; beyond this is a faint trace of another similar very obscure line, submarginal row curved from in front of the apex to the inner angle, composed of dark grey dots with a very small whitish speck on the exterior. Secondary reddish grey with bright red costa and pale reddish ochreous inner margin, with two or three very obscure indefinite transverse darkish grey stripes terminating in the inner-marginal area. Fringes whitish.

Underside: red, secondary with a thick irroration of whitish scales on the costa near the base.

Expanse : 64 mm.

Hab. Dinawa, August.

The type is in my collection.

63. **Taragama proserpina** spec. nov. (Pl. IV. f. 9).

♂. Frons white, thorax, collar, antennae, palpi, abdomen and legs black, abdomen below brownish, legs very hairy, hind tarsi ringed with white.

Primary with base brownish, edged externally with a double curved white line; close to the base is a black spot below the cell having a white dot on its inner edge and another at its upper outer extremity; medial area black edged externally with a serrated oblique white line from the costa to the inner margin; a small white spot closes the cell; apex pink with a broad dash of blackish below, below which is a pale brown patch, followed by a wedge-shaped dusky patch, below which the surface is clouded more or less with brownish, a submarginal row of blackish dots to the third vein edged externally by an interrupted deeply scalloped white line. Secondary entirely dusky, with a costal white mark showing through from the underside. The underside of the primaries is black, with the small white spot at the end of the cell as on the upperside; on the inner margin

is a whitish mark near the base, and another nearer the anal angle ; on the costa near the apex is a white spot followed by a short broad dash of pink along the costa. Apex and apical half of the posterior margin pinkish ochreous brown, a subapical patch of pale pinkish brown as on the upper surface ; below the cell the wing is nearly devoid of scales. Secondaries dusky with a short oblique white dash from the middle of the costa, preceded by a deep black costal patch.

Expanse : 37 mm.

Hab. Dinawa, August.

The type is in my collection.

64. **Arguda pratti** spec. nov. (Pl. IV. f. 33).

♂. Head and thorax pale fawn-brown, palpi purplish brown, abdomen reddish brown.

Primary ochreous brown tinged slightly with chestnut-colour, irrorated with grey, two medial waved darker stripes palely edged, widely separate, the interspace much filled with grey irrorations, beyond the outer line a band of grey irrorations with pale brown edging, which (edging) is margined by an oblique row of dark grey spots in the vein interspaces. Secondary red-brown, costa greenish brown, with a single short grey transverse dash.

♀. Similar to *male*, but rather more reddish and with less of the grey irroration; it is a somewhat paler insect.

Expanse : ♂ 44, ♀ 53 mm.

Hab. Ekeikei, January.

The type is in my collection.

65. **Opsirhina aroa** spec. nov.

♂. Head and thorax, red-brown, abdomen pale red-brown.

Primary reddish, with two almost parallel transverse slightly curved inwardly dark lines palely edged outwardly, a slight trace of grey irroration on the termen, more distinct at the apex, a small indistinct blackish dot closing the cell. Fringes dark. Secondary slightly reddish brown, paler for the basal third and fringes darker. Below the primaries are much paler and yellower with the outer line showing prominently through and the apex and termen quite dark ; the secondaries are strongly irrorated with purplish brown, with superimposed grey dusting and two angled transverse stripes, the inner margin being quite pale.

♀. Both wings pale ochreous grey-brown, with an antemedial and postmedial pale band, the medial area being darker with a small white spot in the cell ; a slight trace of a third pale band nearer the apex. Secondaries darker with the two medial pale bands rather obscure.

Expanse : ♂ 40, ♀ 69 mm.

Hab. Aroa River.

The type is in the Tring Museum. The single *male* was taken in March, whilst the *female* was taken at the end of January. I have no doubt as to the sexes, however.

Isostigena gen. nov.

♂. Palpi minute, antennae deeply bipectinate to over a third, then suddenly reduced and tapering slightly to the tip ; legs densely clothed with thick brushes of long hair to the end of the tarsi.

Primary with veins 6, 7, 8 stalked, 9 and 10 on a long stalk from just before the end of the cell, 11 long bent upwards and lying directly below vein 12. Secondary with two internal veins. 3, 4 and 5 from angle of cell, 7 from the cell, connected with 8 by a bar, 8 bent upwards from the base in a deep curve, then sharply downwards to the bar, from thence to the margin at an angle, it thus forms a large secondary cell, several small veinlets are emitted from 8 to the margin, a slight precostal vein.

Type: *I. bicellata* spec. nov.

66. **Isostigena bicellata** spec. nov. (Pl. IV. f. 12).

♂. Head, palpi, thorax, and abdomen reddish brown with the scales palely tipped, giving an irrorated appearance; legs similar in colour, densely haired; antennae paler, set in marked sockets of pale fawn-colour; anal tuft blackish.

Primary pale fawn-colour, pale reddish in the cell and posterior marginal area, deep purplish red below the cell to the inner angle; subbasal line curved, dark grey, evanescent a little below the cell, postmedial line dark grey, angled on vein 6, and scalloped between each vein; from the apex are four or five dark spots between the veins near the posterior margin. Secondary pale pinkish brown, with a slightly darker medial cloud, and submarginal indefinite transverse band.

Underside: primary dusky with a reddish wedge-shaped patch beyond the cell; secondary pale pinkish brown with the basal costal area dark greyish.

Expanse: 42 mm.

Hab. Dinawa, taken in May and again in August; also from the Aroa River (Tring Museum).

The type is in my collection.

Sporostigena gen. nov.

♂. Palpi hairy, porrect not beyond the frons; antennae deeply bipectinate for about a third, suddenly decreasing, and gently tapering to tip; legs hairy, one pair of minute spurs on hindtibia only.

Primary with veins 4 and 5 from lower angle of cell, 6, 7 and 8 stalked, 9 and 10 on a very long stalk, 11 inclined up and lying directly below 12. Secondary with two internal veins, 3, 4 and 5 from the lower angle, 4 and 5 being stalked, 7 from the cell near to the base, 8 bent down to touch 7 close to its origin from the cell, then angled rapidly upwards to the costa, so forming a small secondary basal cell, two veinlets rising from 8 before its anastomosis, precostal vein also present.

Type: *S. uniformis* spec. nov.

67. **Sporostigena uniformis** spec. nov. (Pl. IV. f. 11).

♂. Head, thorax, abdomen, and legs pale greyish brown. Palpi dark chocolate brown. Both wings light brown, thickly clothed with ochreous scales.

Primary with only a trace of a basal and medial grey line, and with a submarginal row of dark spots. Secondary with a very faint dark medial line.

Underside: primary brown with a slight reddish tinge, secondary as the

upperside, but with the costal area dark brown and almost free from ochreous scales.

Expanse : 42 mm.

Hab. Dinawa ; Aroa River.

The type is in my collection.

68. **Odonestis centralistrigata** spec. nov. (Pl. IV. f. 7).

♂. Head and antennae grizzly brown, palpi and collar reddish brown, each tipped and irrorated with greyish ; thorax reddish ochreous brown with slight very fine irrorations of grey ; abdomen above black ringed with yellow, below reddish brown ; anal tuft blackish ; legs hairy, red finely irrorated with grey, ochreous on the inside ; tarsi hairy red, all the hairs tipped with pale grey, giving the appearance of pale encirclings.

Primary reddish brown, very finely irrorated all over with pale grey ; a little over the centre is a longitudinal broadish dark grey stripe from near the base almost to the posterior margin, in which a quarter from the base is a very small but distinct whitish dot, a medial and postmedial dark grey curved transverse stripe, which are parallel ; a submarginal row of pale grey spots somewhat obscure with black edging internally, roughly parallel to the posterior margin. Fringes darker. Secondary brown, with a slight reddish tint, especially in the costal area, and ochreous in the basal and inner-marginal areas with fine grey irrorations ; the medial and postmedial transverse grey lines as in the primary extend through from the costa to the inner margin ; fringes darker.

Underside less red than above, but with the two grey stripes carried through both wings as above.

Expanse, 62 mm.

Hab. Dinawa, August.

The marked longitudinal stripe of the primary and the two parallel grey lines carried right through both wings should make it easily recognisable ; it comes near *O. griseomarginata* Swinh.

Family *LYMANTRIDAE*.

69. **Caviria dinawa** spec. nov.

♂. Head cream-coloured, thorax whitish, abdomen yellow, legs yellowish. Both wings hyaline with scattered raised scales.

Primary with a raised spot at the end of the cell, raised scales on the inner margin below vein 2, and in the subterminal area. Secondary with a raised spot at the end of the cell, a patch on vein 2 and in the subterminal area.

Expanse, 40 mm.

Hab. Dinawa, September.

A series. The type is in my collection.

70. **Porthesia aroa** spec. nov.

♂. Head, palpi, antennae, thorax, and first segment of abdomen pure white ; rest of abdomen blackish with blackish anal tuft. Both wings pure white, with no tendency to become hyaline.

♀. Exactly like the *male*, only larger.

Expanse: ♂ 33, ♀ 36 mm.

Hab. Aroa River, March.

The type is in the Tring Museum.

71. **Porthesia alba** spec. nov.

♂♀. Head and thorax tinged with buff colour, antennae with white shafts, abdomen dark grey with yellow anal tuft. Both wings pure white—in the *female* only a slight tinge of ochreous on the inner margin of the primaries.

Expanse: ♂, ♀, 32 mm.

Hab. Aroa River, ♂, *type*; Ekeikei, ♀.

The ♂ is in the Tring Museum and the ♀ in my collection.

72. **Porthesia meeki** spec. nov.

♂. Head and thorax white, abdomen yellow dorsally and laterally, below white.

Primary pure white, quite markless. Secondary pure white, with abdominal fold yellowish.

♀. With a tinge of straw-colour in both wings, deepest in the basal and abdominal areas of the secondary.

Expanse: ♂ 21—26, ♀ 32 mm.

Hab. Aroa River, March and April.

The type is in the Tring Museum.

73. **Porthesia ekeikei** spec. nov. (Pl. VI. f. 22).

♂. Thorax whitish, abdomen brown with whitish anal tuft.

Primary white, with a large patch of brown scales in the middle of the inner margin. Secondary pure white.

Expanse, 24 mm.

Hab. Ekeikei, March to April.

In my collection.

74. **Euproctis swinhoei** spec. nov. (Pl. IV. f. 20).

♂. Head and antennae blackish, thorax orange-yellow, abdomen black with whitish anal segment.

Primary orange-yellow, with a few scattered fine black scales on the termen below the apex, extending into a stripe between veins 6 and 7, and a very few fine black isolated scales below and beyond the cell. Secondary uniformly black. The under surface is similar in colour to the upperside, only there is a large blackish apical patch in the primaries.

Expanse, 44 mm.

Hab. Mount Kebea, March to April.

The type is in my collection.

75. **Euproctis virginea** spec. nov. (Pl. VI. f. 16).

Head white tinged laterally with yellow, thorax and abdomen white spotted with a peculiar delicate livid blue.

Primary pure white with a terminal and inner-marginal series of similar

blue spots and stripes, which extend over vein 1 in a short postmedial row of three spots. Secondary pure white.

Expanse, 36 to 42 mm.

Hab. Ekeikei, January to April ; also from the Aroa R. (Tring Museum).

The type is in my collection.

76. **Euproctis parallelaria** spec. nov. (Pl. IV. f. 16).

♂. Head yellow, thorax grey, abdomen blackish with cream-coloured anal tuft ; antennae with yellowish branches ; fore legs grey, middle and hind legs yellowish, hairy to the end of the tarsus.

Primary pale greyish with two oblique parallel angled lines beyond the cell ; the upper part of these lines is yellowish, the lower two-thirds dark grey, inner margin suffused with dark scales ; cell closed by a dark grey spot, which is produced into a broad dark stripe extending into a dark grey patch on the posterior margin below the apex ; below this the posterior margin has a suffusion of dark grey scales to the anal angle. Beyond the outer parallel line is a trace of another spotted line somewhat indistinct and interrupted. There is a yellowish dash on the vein at the upper and lower angle of the cell. Secondary uniform pale ochreous.

Expanse, 34 mm.

Hab. Dinawa, August and September.

77. **Euproctis kebeæ** spec. nov. (Pl. IV. f. 30).

♂. Head and antennae primrose yellow, thorax pale yellow tinged with orange, abdomen brownish, with anal tuft pale yellowish.

Primary pure markless deep primrose yellow. Secondary tinged with orange with paler fringes.

Expanse, 43 mm.

Hab. Mount Kebea, March ; Aroa R. (Tring Museum).

The type is in my collection.

78. **Euproctis dinawa** spec. nov. (Pl. IV. f. 29).

♂. Head greyish yellow, thorax and abdomen ochreous yellow, the latter brownish at its anal extremity with a pale anal tuft, legs yellowish white. Both wings pale ochreous, without any markings, except that in the primaries there is a rusty red patch on the inner margin, nearer the base than the anal angle.

♀. Like the *male*, but whitish with a trace of ochreous. The secondaries more ochreous, especially around the inner margin.

Expanse : ♂ 40-43, ♀ 40 mm.

Hab. Dinawa, Aroa R. (Tring Museum).

The type is in my collection.

79. **Euproctis yulei** spec. nov. (Pl. IV. f. 28).

♂. Head, thorax, and abdomen orange yellow, the latter paler at the anal extremity.

Primary orange colour, rather paler than the thorax, with the veins showing

as paler lines ; a deep red triangular spot occupies the posterior half of the cell. Secondary pale ochreous.

Expanse, 42 mm.

Hab. Dinawa, August.

The type is in my collection.

80. **Euproctis rubroradiata** spec. nov. (Pl. IV. f. 21).

♂. Head, collar, and abdomen pale yellowish brown, thorax pale yellow with a crimson stripe on each patagia. Legs with a black stripe on the tibiae of the middle and hind pair, and the tarsi of all black.

Primary pale smooth yellow, a crimson spot at the base of the costa, in the centre of the cell, and near the base between the cell and vein 1 ; just beyond the cell a recurved row of purplish crimson spots from near the costa to the inner margin, from each of which radiates a crimson stripe between the veins to the posterior margin, each alternate stripe being finer than its neighbour. The stripes above the inner margin and in the space between veins 2 and 3 arise almost at the base of the wings, and there is also a stripe just below the costa in front of the apex ; posterior fringe yellow, inner-marginal fringe crimson. Secondary yellow shading into orange in the inner-marginal area.

Expanse : 45 mm.

Hab. Dinawa, August and March.

The type is in my collection.

81. **Euproctis pratti** spec. nov. (Pl. IV. f. 13).

♂. Head, thorax and abdomen rufous brown, head and antennae paler, palpi dark brown, and tuft white ; legs with all the tarsi black, the tibiae of the middle and hind pair black below.

Primary entirely covered with rufous brown scales except that the veins appear finely somewhat pale yellowish, and there is an irregular pale yellow stripe near the posterior margin from which the veins radiate pale yellow up to the margin, giving the transverse stripe a deeply serrate outline on that side ; a large round prominent white spot is at the end of the cell. Secondary deeply ochreous.

Expanse : 42 mm.

Hab. Dinawa, August.

The type is in my collection.

82. **Euproctis fuscoradiata** spec. nov. (Pl. VI. f. 5).

♀. Head and thorax primrose yellow, abdomen black with whitish anal extremity.

Primary primrose yellow with a subbasal indefinite patch of rusty brown not extending to the costa ; beyond the cell is a broad spotted stripe of rusty brown receding in a curve basewards below the cell, the spots above vein 2 to the apex radiating outwards to the termen into a broad stripe in each of the vein interspaces. Secondary chrome yellow with blackish basal areas.

Expanse : 44—46 mm.

Hab. Aroa R., February and March.

The type is in the Tring Museum.

83. **Euproctis aroa** spec. nov.

♀. Head and thorax rufous brown, abdomen red with a whitish anal tuft.

Primary reddish brown, with basal area darker and a broad postmedial indefinite band and less broad terminal area of darker colour, the veins in the latter area showing pale. Secondary orange yellow. Underside uniform orange yellow, with the termen of both wings dusky in the nerve interspaces.

Expanse: 64 mm.

Hab. Aroa R., February.

The type is in the Tring Museum.

84. **Euproctis nigroapicalis** spec. nov. (Pl. IV. f. 34).

♂. Head, thorax, and abdomen dark greyish brown.

Primary orange yellow with the basal and medial areas thickly irrorated with blackish, the costal, apical, and terminal areas suffused with blackish, with the veins showing slightly red, the tornus and a spot in the cell only having the orange-yellow ground-colour free from suffusion. Secondary with the costa and apex bright orange red, the rest of the wing being deep black, fringe showing slightly orange.

The underside is exactly like the upperside, except that the primary has no basal or medial irroration.

Expanse: 37 mm.

Hab. Aroa R., March; one specimen.

The type is in the Tring Museum.

85. **Euproctis irregularis** spec. nov. (Pl. VI. f. 14).

♂. Head and thorax ochreous grey, abdomen brownish grey.

Primary greenish grey, considerably irrorated with darker grey, with an antemedial curved irregular blackish stripe, and a similar subterminal stripe beginning in a blackish subapical patch, the line receding near the inner margin, edged outside with yellowish scales. Secondary pale greyish without markings.

Expanse: 32 mm.

Hab. Dinawa, Aroa R., September.

The type is in my collection.

86. **Euproctis albociliata** spec. nov. (Pl. VI. f. 2).

♂. Head, thorax, and antennæ olive brown, abdomen black with bright yellow terminal segment and anal tuft.

Primary uniform olive brown with a white quadrate spot at the end of the cell, and the termen narrowly white with white fringes. Secondary bright yellow, with small basal area black extending slightly down the inner margin.

Underside of both wings yellow, with the inner margin of the secondary slightly black.

Expanse: 53 mm.

Hab. Ekeikei, January.

The type is in my collection.

87. **Euproctis novaguinensis** spec. nov.

Head and thorax pale brown, antennae pale brown, abdomen darker brown with pale segmental dorsal divisions, anal tuft cream-coloured; legs yellow with dark tarsi.

Primary uniform reddish dull brown to the tips of the fringes. Secondary pale orange-yellow with the inner-marginal area brownish, fringes grey.

Under surface entirely yellow, dusky in the primaries towards the termen, in the secondary on the inner margin.

Expanse: ♂, 62 mm.

Hab. Ekeikei, Mount Kebea. The species occurs generally in most of the localities visited, flying from January to April.

The type is in my collection.

88. **Euproctis sublutea** spec. nov.

♂. Frons ochreous grey, palpi black, head dark brown, thorax white with dark brown patagiae and dark hairs sparingly covering the white thorax, abdomen black, with anal tuft ochreous cream-colour, legs brownish with black tarsi.

Primary uniform darkish brown with fine reddish brown irrorations. Secondary orange, with the inner-marginal third black of an ovate shape exteriorly.

Underside: Primary orange yellow, with the apical and terminal area blackish. Secondary as above.

♀. Like the *male*, only darker, and the underside of the primaries is entirely brown, like the upperside.

Expanse: ♂ 39, ♀ 64 mm.

Hab. Dinawa, June and July; Mount Kebea, March and April.

The type is in my collection.

89. **Euproctis flavicaput** spec. nov.

♂. Frons and palpi orange, collar and thorax dark brown, abdomen black with anal extremity whitish, pectus orange yellow; legs yellowish, with similar coloured tarsi. Wings similar in colour to the preceding species (*sublutea*), but the colour of the primary is darker, and of the secondary yellower, not so orange.

Expanse: 38 mm.

Hab. Aroa River (Tring Museum).

This species is superficially very close to *sublutea*, but the dark thorax, the orange head and pectus and palpi, and the yellow tarsi will easily separate it.

Diversosexus gen. nov.

Antennae bipectinated, long in the *male*, shortly in the *female*; palpi very minute, proboscis absent; legs short, slightly hairy, very slightly in the *male*.

♂. Primary with two internal veins, and vein 1*b* forked at base, veins 3 and 4 from lower angle of the cell, 5 from middle of cell, 6 from upper angle of cell, 7, 8, 9 and 10 stalked, 11 from cell; cell placed close to costa, so that veins 10, 11, and 12 are compressed close together and run parallel with each other, the two former to close to the apex. Secondary with three internal veins, veins 3 and 4 from angle of cell, 5 from near centre of cell, 6 and 7 stalked, 8 free from base.

♀. Primary with vein 3 below the angle of cell, 4 and 5 from the angle,

6 from upper angle of cell, 7, 8, 9 and 10 stalked, 11 from cell, veins 10, 11 and 12 not compressed. Secondary with vein 3 below the angle, 4 and 5 from angle of cell, 6 and 7 stalked, 8 anastomosing with 7 shortly at about a third its length.

Type: *D. bicolor* spec. nov.

90. **Diversosexus bicolor** spec. nov. (Pl. VI. f. 4).

♂. Head, antennae, and legs brown; thorax brownish black; abdomen black, ringed on the upper part with grey at the segments, anal extremity cream-coloured. Both wings brownish black.

Primary with a very broad whitish curved band across the centre of the wing from the costa to the inner margin. Secondary with the lower half of the inner margin finely whitish, bisected by the black ground-colour.

♀. Like the *male*, except that in the primaries the whitish band is replaced by a wedge-shaped patch extending to the angle of vein 2, and the veins are more or less whitish also. This sex is very hairy in the basal area.

Expanse: ♂ 52, ♀ 55 mm.

Hab. Dinawa; Aroa River (Mus. Tring).

The type is in my collection.

91. **Diversosexus aroa** spec. nov. (Pl. VI. f. 3).

♂. Head, thorax, and abdomen blackish; abdomen with extremity dirty white.

Primary black, with a broad white postmedial band from the costa to the tornus. Secondary white, with the termen broadly black, slightly decreasing towards the tornus.

Expanse: 56 mm.

Hab. Aroa River, March.

The type is in the Tring Museum.

92. **Anthela ekeikei** spec. nov.

♂. Head, thorax, and abdomen brownish grey; palpi blackish; legs dark grey. Both wings brownish grey.

Primary with an antemedial very irregular reddish brown line, followed closely by an obscure similar medial line, between which is a small dark spot in the cell, followed by a larger round one beyond the cell, a postmedial oblique nearly straight fine line with a whitish outer border; this line is sometimes very obscure; beyond this is a row of dark dots, one on each vein, often joined together by a fine V-shaped mark in the interspace. A small costal reddish patch is in front of this row, and there is a subapical terminal darker patch. Secondary with all the lines (except the medial one), and the row of connected dots of the primary carried right through. The underside of the secondary is conspicuous by two distinct small blackish dots in the cell.

Expanse: 57—60 mm.

Hab. Ekeikei.

The type is in my collection.

This species, occurring from January to March, is variable. The medial area between the two lines is liable to dark grey or reddish suffusion, and the two dark spots are often pupilled with white. Again, all the marks are subject to obsoletion.

93. **Dasychira subnigra** spec. nov. (Pl. VI. f. 41).

♂. Head and thorax pale grey; palpi black, tips whitish; antennae with red-brown branches; abdomen dark brown, tinged with golden or red-brown, whitish beneath, anal tuft whitish; legs white, with greyish scales and spotted with black.

Primary greyish white, irrorated with darker grey beyond the medial line and less so at the base. A subbasal dentate black line, interrupted in cell; double medial waved lines, a distinct dentate postmedial and marginal line; between these two a white dentate stripe. Secondary blackish, with greyish white fringes. Below both wings blackish, with darker cell-spot. Primary, costa white, and posterior margin broadly white. Secondary with costa whitish.

Expanse: 54—58 mm.

Hab. Dinawa, August.

The type is in my collection. A series was taken.

94. **Dasychira subnigropunctata** spec. nov. (Pl. VI. f. 40).

♂. Head and thorax pale grey; palpi grey, blackish laterally; abdomen darker grey; legs hairy, pale grey. Antennae shafts whitish, pectinations red.

Primary white, sparingly irrorated with grey: basal line only traceable by a short transverse dark dash from the costa, medial line visible but very interrupted, postmedial line fairly distinct wavy, submarginal line distinct, but interrupted by each vein. Secondary white, with the posterior marginal area slightly irrorated with grey; at the end of the cell a dark spot below shows through.

Underside: both wings white, with a very sparing and faint irroration of grey here and there; at the end of the cells is a very prominent black spot, giving the underside a very distinctive appearance.

Expanse: 50 mm.

Hab. Dinawa, September.

The type is in my collection.

95. **Dasychira brunnea** spec. nov. (Pl. VI. f. 30).

♂. Primary grey, entirely covered with pale brown irrorations, basal and medial darker transverse lines obscure and interrupted, postmedial stripe distinct, strongly serrate, near costa, serrate and obscure in the median area, more distinct and jagged near the inner margin, this line is double on the costa; a dark almost continuous fine submarginal line, between which and the postmedial line is a broad, strongly toothed and serrate pale grey stripe from the costa to the anal angle; posterior margin finely darkish; near the end of the cell is a pale grey indistinct spot, pupilled with dark brown; fringes pale brown. Secondary uniform darkish brown; fringes paler, darkly tesselated.

Underside: both wings uniform brownish grey; primary with pale ochreous costa, a blackish spot closing the cell, and whitish fringes; secondary with quite white fringes to the costa, and very pale and darkly tesselated posterior fringes, the posterior margin being finely dark. Head and thorax covered with pale brown and whitish scales; antennae with reddish branches; palpi black, tipped with pale grey; abdomen brown with a lighter anal tuft; legs greyish, spotted

with dark brown; tibiae of hind pair dark brown with a black stripe, all hairy, the front pair being very thickly hairy.

Expanse: 54—55 mm.

Hab. Dinawa, August.

The type is in my collection.

96. **Dasychira minor** spec. nov. (Pl. VI. f. 27).

♂. Head and thorax grey; palpi black tipped with grey; antennae with reddish branches; abdomen dark grey; legs, fore darkish grey, very hairy, middle pale grey, with tibiae strongly marked with black, hind pale grey.

♂. Primary greyish white, central and posterior areas strongly irrorated with dark grey; basal line close to base represented by two short dashes, one from the costa, the other across the cell, a double medial dentate line, the inner line interrupted by a whitish triangular patch below the cell, leaving two dark <-shaped marks between it and the inner margin, postmedial line waved, sometimes double, the outer one rather indistinct, in front of which is a dark spot closing the cell, space beyond whitish, two waved indistinct lines between this and the margin both rather interrupted, margin finely dark, a black spot on the costa beyond the cell, fringes tesselated dark grey and white. Secondary whitish, with a broad grey shading on the posterior margin; fringes tesselated grey and white.

Underside: primaries smoky-black, with whitish inner-marginal areas; secondaries white, with a dark stripe beyond the cell across the wing, very distinct on the costa.

Expanse: 40 mm.

Hab. Dinawa, August.

The type is in my collection.

97. **Dasychira kenricki** spec. nov. (Pl. IV. f. 27).

♂. Head and thorax grizzled grey; palpi blackish brown, grey tipped; abdomen yellowish, with dark segmental divisions and dark anal tuft.

Primary grey, with the basal area whitish grey, sparingly irrorated with very fine darker grey, more densely on the inner margin, an irregular fine black line sharply angled below the costa and receding basewards; a broad dark medial band edged with blackish laterally, followed by a band of much darker ground-colour, in which is a dark spot closing the cell, a postmedial serrate blackish line, ground-colour darkish to the termen, a subterminal irregular serrate line. Secondary yellow, with a broadish postmedial blackish band not reaching the apex.

Expanse: ♂ 62—63 mm.

Hab. Dinawa, June—August.

The type is in my collection. Several specimens were taken.

Dasychiroides gen. nov.

Palpi upturned, densely clothed with long hair; antennae with the branches very long in male; legs hairy.

Primary with outer margin somewhat rounded, scarcely oblique; neuration, veins 7, 8, 9, 10 stalked, 11 and 12 anastomosing very shortly. Secondary with veins 3, 4, and 5 from near the angle of cell, 6 and 7 from the upper angle.

Type: *D. obsoleta* spec. nov.

98. **Dasychiroides obsoleta** spec. nov. (Pl. VI. f. 43).

♂. Head and thorax greyish white, palpi black, grey tipped; antennae with red-brown branches, set in two porrect pencils of whitish hairs; abdomen dark brown all over; legs grey, black spotted.

Primary whitish, somewhat shiny, with a trace of a basal black dentate line, with double antemedial and double medial interrupted dentate lines, a postmedial serrate line and an antemarginal line, the latter appearing almost as a row of dots. Posterior margin distinctly dotted with black between the veins. Secondary blackish grey with similar coloured fringes.

Underside: primaries dirty grey, whitish below the cell and the centre portion of costa, secondaries dark grey with a trace of a lunule in the cell.

Expanse, 44 to 50 mm.

Hab. Owen Stanley Range, *type*; Aroa River; etc. Flies in May to June near the coast, and in August in the hills, and is not uncommon.

The type is in my collection from Dinawa.

99. **Dasychiroides nigrostrigata** spec. nov. (Pl. VI. f. 28).

♂. Very similar to the previous species, but with the markings obsolescent; at the end of the cell in the primary there is an oblique broad black transverse stripe from the middle of the costa to near the inner angle.

Expanse, 47 mm.

Hab. Dinawa, and generally distributed. This species is a close ally to *obsoleta*.

The type is in my collection. A small series was taken from each locality.

100. **Dasychiroides pratti** spec. nov. (Pl. VI. f. 7).

♂. Head and thorax greyish white, palpi black laterally with white edges; antennae short, with red-brown branches; abdomen brown with whitish anal tuft; legs white, grey scaled, tibiae and tarsi of hind pair brown.

Primary white with all the central area suffused with dark brown, leaving only a small basal and the terminal area white, which latter is excavated towards the cell; the brown scaling extends to the apex, and there is a costal grey patch beyond the cell, an antemedial double blackish irregular line edging the brown area, a postmedial serrate blackish line edging exteriorly the brown scaling, beyond which is a second similar line. Termen with a dark dash in each of the vein interspaces. Fringes white, darkly intersected. Secondary uniformly dark brown, with paler fringes having a dark dividing line.

♀. Primary dark brown, with a pale grey terminal area produced inwards towards the medial area; the base is slightly mixed with grey; all the markings are as in the male, but greatly exaggerated, and the double subterminal line is strongly accentuated and is produced on each of the veins into a spear-shaped mark.

Expanse, ♂ 50, ♀ 75 mm.

Hab. Dinawa, July and August; Ekeikei, January and February; Aroa River (Tring Museum).

The type is in my collection. A series has been taken.

101. **Dasychiroides bicolora** spec. nov. (Pl. VI. f. 6).

♂. Head and thorax grey with a dark central stripe ; antennae with orange-red long pectinations ; abdomen dark brown; legs hairy, whitish with dark bare tibiae palely encircled.

Primary whitish grey, costa broadly irrorated with darker grey up to the end of the cell, irrorations extending into the cell ; beyond this to near the apex is a large dark brown patch reaching to the lower angle of the cell. The medial serrated line and the submarginal serrated line are obscure and interrupted, the ground near them being sparingly irrorated with dark grey ; posterior margin spotted with black, fringes whitish intersected with black at the dots. Secondary uniform blackish brown, fringes of the same colour.

Undersurface, both wings entirely dark brown.

Expanse, 43—44 mm.

Hab. Dinawa ; Mount Kebea ; Aroa River (Tring Museum).

I was at first disposed to consider this an aberration of *D. pratti*, but further material having come to hand from another locality decides me that this is not so, but that it is a well-marked species. It has been taken in August at Dinawa at an altitude of about 4000 ft., and again this year at Kebea mountain, 6000 ft., in March and April. It is also in the Tring Museum from the Aroa River.

102. **Dasychiroides brunneostrigata** spec. nov. (Pl. VI. f. 8).

♂. Primary white, without any markings till the brown angulated stripe beyond the cell: this stripe is pale brown with scattered blackish scales in it, and is acutely angled about the sixth vein, where it bifurcates, the inner line ending on the costa above the cell, the outer stripe approaching the apex and widening ; this upper and wider portion is distinctly edged on each side with very dark brown ; the lower and longer portion makes a bold interior curve to the inner margin, between which and the base are two short black dashes on the margin. Beyond the stripe there is a sparse scattering of greyish scales. Secondary uniform dark grey. Head and thorax whitish, with a small grey patch on the collar; head white ; palpi black laterally, edged and tipped with white ; antennae shortish, with red branches ; abdomen dark grey, anal tuft whitish. This species has the same raised scales as the previous species in the primary.

Expanse, 51 mm.

Hab. Dinawa ; Aroa River (Tring Museum).

The type is in my collection.

103. **Lymantria novaguineensis** spec. nov. (Pl. VI. f. 35).

♂. Head and palpi dark grey, the latter tipped with rose pink and with pink hairs around the base of the antennae ; thorax grey, darkest in the front ; abdomen bright rose pink, with the dorsum centrally striped with white, with the segmental divisions of the white stripe black ; beneath, the legs, pectus, and ventral surface are considerably suffused with rose pink.

Primary white, with two basal black spots, one on the costa and one below the cell ; a series of three antemedial black spots, that below the costa elongate, a medial interrupted irregular black line rising in a black costal patch ; just beyond this a

black small oval spot in the cell, followed by another closing the cell; two strongly serrate very irregular black lines from the costa to inner margin near the tornus, an interrupted irregular black subterminal line. Termen spotted with black. Secondary white tinged with yellow on the inner-marginal area, termen with two black spots at the apex, and a trace of an obscure dark spot closing the cell, which is more prominent on the underside.

Expanse: 68 mm.

Hab. Owen Stanley Range, August, and March and April.

The type is in my collection. A series was taken at various places.

104. **Lymantria ekeikei** spec. nov. (Pl. VI. f. 18).

♂. Head and palpi greyish yellow; collar yellow fringed with grey; thorax greyish yellow; abdomen yellowish brown.

Primary greyish white tinged with yellow, crossed by a series of six strongly serrated dark grey lines, the outer five being close together; between the first line and the second the wing is clear of marks except a dark grey dot in the cell; the basal area is crossed by a series of two or three rows of dark grey spots, termen spotted with blackish, costa with four blackish spots to beyond the cell; between the fourth and the apex are three fine short black dashes. Secondary spotless dull yellow.

Underside: both wings yellow, the primaries tinged with greyish and showing some of the upperside pattern through to a slight extent.

♀. Head and thorax whitish grey, spotted with darker grey, with interspersed red hairs; abdomen rose-red. Primary greyish white, with all the pattern as in the *male*, only, being a much larger insect, it is more scattered. Secondary spotless rose-red. Underside of both wings rose-red, with the terminal spots showing through, and some of the other markings showing through to a less extent.

Expanse: ♂ 41—42, ♀ 60 mm.

Hab. Ekeikei, January and February.

The type is in my collection. A series was taken.

105. **Lymantria kebeae** spec. nov. (Pl. IV. f. 22).

♂. Head black, collar white, or white tinged with yellow; thorax white or tinged with yellow, with three black frontal stripes, and two black central spots close together; abdomen black with yellow anus; legs blackish, with long tufts of whitish hair; femora bright crimson on the upperside.

Primary greyish (a sort of neutral tint) with the veins distinctly marked out in orange yellow, basal area white, with two or three small black points and a black basal line, a broad interrupted black antemedial band edged externally with white, which is again edged externally with black, thus forming the first medial black line; a black spot in the cell, followed by a reniform black stigma closing the cell, below which on the inner margin is a white patch intersected by a double black lunule, and edged externally by a black patch divided by the veins; beyond the cell are two or three series of strongly serrated black lines to vein 2, the outer series being broad and prominent; termen spotted with black. Secondary orange yellow, with a small black spot in the cell; a very broad black inner marginal area and a black termen, broadest at the apex.

Underside: Primary orange yellow with a black costa, a black spot at the end of the cell, from which the rest of the wing is black to the apex, and in a curve to the tornus. Secondary black with an orange-yellow medial patch.

Expanse: 42 mm.

Hab. Mount Kebea.

The type is in my collection, a few specimens being taken in March and April.

106. **Imaus niveus** spec. nov.

♂. Head, thorax, abdomen, and legs white; palpi white, brownish laterally. Both wings spotless white, primaries with raised scales over a considerable portion of the wings.

Expanse: 62—64 mm.

Hab. Ekeikei and Mount Kebea, March and April.

The type is in my collection.

107. **Imaus spodea** spec. nov. (Pl. VI. f. 1).

♂. Head and thorax white, the latter tinged with grey; abdomen blackish, with white anal tuft; palpi black laterally fringed with white.

Primary white suffused with grey in the costal area, with five raised transverse lines slightly greyish; termen dotted with black; costa with five grey spots, from which the raised lines have their origin. There is a sparse fine grey irroration in the terminal and inner-marginal areas. Secondary grey with white fringes.

♀. Browner than the *male*, with the lines less apparent.

Hab. Dinawa, August; Ekeikei and Mount Kebea, March and April; Aroa River (Tring Museum).

The type is in my collection. A few specimens were taken.

108. **Imaus aroa** spec. nov.

♀. Palpi white, brown laterally on the outside; head, thorax, and abdomen whitish. Both wings whitish.

Primary with a trace of a basal, an antemedial and a medial dark line, the postmedial and subterminal lines strongly scalloped and almost confluent in a single dark line between veins 1 and 2 just before the tornus; apical portion of the costa and the whole of the termen spotted with black. In the cell beyond the middle is an ovate spot and another larger spot closing the cell. Secondary with a trace of some black points between veins 2 and 5, with the termen in the same area spotted with black.

Expanse: 98 mm.

Hab. Aroa River, January.

The type is in the Tring Museum, and is unique. I think that further material may prove this to be the *female* of one of the two preceding species; there are, on the other hand, points of difference that make me doubtful, so I have described it.

109. **Imaus pratti** spec. nov. (Pl. IV. f. 15. ♂ Pl. VI. f. 12. ♀).

♂. Head, thorax, and abdomen ochreous brown. Primary ochreous grey, with an antemedial and a postmedial darker grey line, a dark dot at the end of cell

a subterminal irregular grey line, costa with four dark dots in front of the apex, termen darkly dotted. Secondary uniform pale whitish ochreous.

♀. White. Primary subhyaline, irrorated with dark grey and with raised scales, with three antemedial dark stripes to vein 1, the third being very oblique and curved from the costa to the cell, a postmedial line in shape like the third antemedial; cell with two black dashes at its upper and lower end, where there is a good deal of dark grey scaling, beyond which is a grey spotted stripe from the costa to near the angle, a subterminal line strongly serrated on each vein; termen darkly spotted in each nerve space. In the cell is a raised patch of white scales darkly encircled. Secondary pure white, slightly hyaline.

Expanse: ♂ 30, ♀ 40 mm.

Hab. Dinawa, August and September.

The type is in my collection.

110. **Imaus marginepunctata** spec. nov. (Pl. VI. f. 13).

♂. Head and thorax whitish; palpi white, black exteriorly; abdomen straw-yellow with whitish anal extremity.

Primary greyish white, with a trace of a short basal dark line; a double dark antemedial line, an interrupted medial line crossing a round cell-spot of raised scales finely encircled with grey; a double strongly serrate postmedial line, beyond a spot of raised scales closing the cell, also encircled finely with grey, below which is a smaller similar spot having a short but prominent black dash on its exterior; a subterminal row of short grey dashes between the veins, extending forwards as spear-heads on each vein. The base of the costa is finely black for a quarter, then prominently spotted with black; termen spotted with black. Secondary uniform pure white.

Expanse: 32 mm.

Hab. Aroa River, March.

The type is in the Tring Museum.

111. **Imaus dubia** spec. nov. (Pl. VI. f. 10).

♂. Head and thorax grey; palpi grey, tipped with ochreous; abdomen yellowish white; in fresh specimens probably white.

Primary grey, with a slight yellowish suffusion at the base; a trace of a basal line; an antemedial irregular dark grey line, a medial irregular dark grey line (receding basewards below the cell) crossing a spot of raised scales encircled with grey at the end of the cell, where there is a suffusion of grey extending to near the apex; a postmedial double strongly serrate line, followed by a subterminal line of dark grey dashes; termen obscurely dotted; costa with a grey patch above the end of the cell, and darkly dotted from thence to the apex; a spot of raised scales in the cell encircled with grey. Secondary pure white.

Expanse: 32 mm.

Hab. Aroa River, March and April.

The type is in the Tring Museum.

This species is a close ally of the preceding: it is, however, darker, and the lines are not the same as has been stated, whilst veins 10 and 11 do not anastomose as in that species.

112. **Imaus sulphurea** spec. nov. (Pl. VI. f. 11).

♂. Head and collar sulphur-grey ; thorax and abdomen greyish.

Primary sulphur-grey, with a black point at the base of the costa, and a black dash near the inner margin ; an antemedial black irregular line palely edged on its anterior ; a medial black line, receding suddenly basewards below the cell, crossing a darkly suffused blackish spot closing the cell, beyond which is another darkly spotted line following the same course ; a subterminal irregular dark line ; termen darkly spotted, and costa from the end of the cell to the apex darkly spotted. Secondary whitish, tinged with sulphur.

Expanse : 32 mm.

Hab. Aroa River, March.

The unique type is in the Tring Museum.

Family *AGANAIDAE*.

113. **Deilemera kebeae** spec. nov. (Pl. VI. f. 36).

♂ ♀. Head black ; collar black, edged sparingly all round and divided in the centre with deep orange, which colour sparingly edges also the black patagiae ; metathorax with an orange spot ; abdomen black above, with orange segmental divisions. Below the undersurface of thorax and abdomen is orange spotted with black.

Primary black, with the entire area below the cell white up to three-quarters of the inner margin ; beyond the cell a largish white patch, separated from the white subcellular area by a dark band. Secondary white, with a broad, even, terminal black margin.

Expanse : 44—45 mm.

Hab. Mount Kebea, March and April.

The type is in my collection.

114. **Deilemera dinawa** spec. nov. (Pl. VI. f. 37).

♂ ♀. Frons whitish, with black centre ; head black, sparingly fringed with whitish ; patagiae black, edged with whitish ; thorax black ; abdomen black, with whitish segmental divisions, except two yellow ones at the extremity ; anal tuft yellow.

Primary dark brown, with the three main veins whitish to the transverse white patch ; below the cell a white slightly expanding streak as far as the origin of vein 2 ; an oblique large whitish patch beyond the cell from the costa, where it is narrow, but expands rapidly to near the tornus ; the ground colour invades this patch slightly in the angles of veins 3 and 4 ; inner margin narrowly white for nearly all its length. Secondary white, with the termen broadly dark brown, but slightly excavated between veins 2 and 5 ; the antennae of the *male* are deeply pectinated, those of the *female* narrowly.

Expanse : ♂ 42, ♀ 40.

Hab. Dinawa, August and September.

The type is in my collection, a series being taken.

115. **Deilemera pratti** spec. nov. (Pl. VI. f. 38).

♂ ♀. Head whitish, with a black spot; collar black, fringed and divided in the middle with pale yellowish; patagiae black, fringed with white; thorax black, with a white stripe on each side meeting in the centre; abdomen pale smoky brown, with fine pale segmental divisions.

Primary smoky brown, with the basal half of the veins showing pale; a fine white line in the fold below the cell and another in the cell; a posterior oblique broad smoky white patch from the costa to close to the tornus, the veins all being outlined in brown. Secondary subhyaline white, with a broad smoky brown termen increasing towards each angle.

Antennae of *male* deeply, of *female* narrowly, pectinated.

Expanse: ♂ 41, ♀ 47 mm.

Hab. Owen Stanley Range, September, and March and April.

The type is in my collection, a series being sent home from various places.

Family *ARCTIIDAE*.

Subfamily ARCTIINAE.

116. **Maenas punctatostrigata** spec. nov. (Pl. VI. f. 15).

♂. Head and thorax creamy white, palpi and antennae black; abdomen yellow spotted with black on the dorsum of the hinder segments; legs creamy, with black tarsi and tibiae black below; thorax with a single black spot on each patagia.

Primary yellowish cream-colour, with three black costal spots at base above the middle and beyond the end of the cell; a single transverse oblique black spotted stripe from near the apex to near the middle of the inner margin; by the inner margin a black spot on each side of it divided by vein 1, and two or three black spots divided by veins 4 and 5 beyond the stripe; termen with three black spots below the apex. Secondary spotless creamy white.

Expanse, 37—40 mm.

Hab. Mount Kebea, Dinawa, Aroa River (Tring Museum), August, and March and April.

Type from Mount Kebea in my collection.

117. **Diacrisia pratti** spec. nov. (Pl. IV. f. 23).

♂. Head and thorax pale pinkish brown, commonly called "buff"; thorax with a broad dark central velvety stripe; frons and palpi jet black, pectus and antennae black; abdomen crimson red above with a central dorsal row of black spots; below the abdomen is black, slightly yellowish at the segmental divisions, with a marked black ellipse, beyond which the extremity is pale buff; legs sooty black.

Primary pale pinkish brown, with a few black spots; a small one at the base of vein 12, an antemedial row of five very small ones, the fifth on vein 1 being the largest; a small one two-thirds along the costa, below which is another at the lower angle of the cell broken up into three by the veins, below this shifted inwards a large one divided by vein 1, the least trace of a submarginal row of points divided by the veins terminating in a small spot at the inner angle.

This is not present in all the specimens. Secondary orange yellow, tinged with pink in the internal area; a large black spot closing the cell, and a submarginal row of eight large black spots, the fourth from the apex being small.

Underside: Primary rosy pink, pale brownish in the postmedial area, a large black spot closing the cell, beyond which is a short transverse oblique row of black dots; the large spot on the upperside of the inner margin shows through. Secondary orange yellow with the spots showing through.

Expanse, 58 mm.

Hab. Mount Kebea, March and April; Dinawa, August.

A small series. Type in my collection.

118. **Diacrisia dinawa** spec. nov. (Pl. IV. f. 25).

♂. Head pale buff, palpi and frons jet black, thorax dark brown, with a central dark stripe and spotted patagiae; abdomen crimson, with central dorsal and lateral rows of black spots below the latter; the abdomen beneath is pale brown; legs blackish.

Primary rather pale brown, suffused with darker reddish brown, with blackish spots and patches; extreme base deep cream-colour; a subbasal patch of blackish from the costa to lower margin of cell; a small oblique creamy costal spot, an oblique black angulated patch from costa to lower margin of cell, followed by a broad creamy costal patch, beyond which is a large dark patch extending inwards in the cell to the previous angulated patch, and extending as a spotted stripe to the inner margin; a costal creamy spot, followed by a blackish one, a postmedial obliqne dark stripe of eight spots, each divided by the veins from the apex to the inner margin; a short submarginal row; a short parallel marginal row of three similarly divided small spots on the third, fourth and fifth veins; margin darkly spotted to extremity of fringes; a broad pale dash above vein 1. Secondary crimson red, lighter and slightly orange toned towards the termen; an obliqne straight subterminal band of large black spots from the apex to the anal angle, the spot between veins 3 and 4 quite small; cell closed by a large black spot. Fringes ochreous, inner half spotted with black.

Underside: pale brownish grey, with the spots more or less showing through. In the primaries the basal two-thirds crimson red.

Expanse, 60—62 mm.

Hab. Dinawa, Angnst; Aroa River (Tring Museum).

Type in my collection. A series.

119. **Diacrisia kebea** spec. nov. (Pl. IV. f. 24).

♂. Head pale brownish; palpi and sides of frons black; thorax and patagiae darker brown, the latter long and prominent, with a large double black spot; thorax with a dark central streak. Abdomen rose-red, tinged with orange at the base, with prominent dorsal and lateral rows of black spots; abdomen below brownish, with shorter sublateral rows of black spots; pectus black edged with red; legs sooty brown.

Primary brown, with a subbasal costal dark brown patch, and another below and slightly in advance of it, followed by a strongly curved broad irregular medial band, more or less confluent with the very broad irregular postmedial band—the medial band does not extend to the inner margin; a subapical dark

spot, with a second below it; a small spot at the apex, with the smallest trace of a subterminal dotted stripe; termen darkly dotted. Secondary orange yellow tinged with red, with a black spot closing the cell, followed by a pair of small spots, divided by vein 5, another pair divided by vein 2, and a single spot in front of the anal angle.

Underside brown, with the black spots showing through to a small extent. Primary red in the cell; secondary with the spot closing the cell extended to the costa.

♀. Similar to the *male*, but with the two subbasal patches confluent, and with a black spot on the inner margin before the inner angle, and one above it. The secondaries are red instead of orange yellow, with four large spots from the apex and three large spots by the anal angle, and a black irregular stripe from the cell-spot to near the inner margin.

Expanse: ♂ 56, ♀ 78 mm.

Hab. Kebea, March and April.

The type is in my collection. A small series.

Subfamily NOLINAE.

120. **Celama fuscibasis** spec. nov. (Pl. V. f. 42).

♂. Head white, collar fuscous, thorax whitish grey, abdomen pale grey.

Primary white, with the basal third suffused with greyish brown, terminating with the black medial stripe, and having an antemedial black line running through a black spot in the cell; postmedial dark line produced outwards in the middle, with a short preceding costal stripe into the cell; subterminal line blackish and irregular, edged outwardly with white; terminal area greyish; termen finely edged with blackish. Secondary whitish grey, darker towards the apex and termen.

Expanse, 21 mm.

Hab. Dinawa, August.

One ♂ in my collection.

121. **Celama aroa** spec. nov. (Pl. V. f. 39. ♀; f. 41. ♂).

♂. Head and thorax pale grey, palpi dark fuscous; legs black, ringed with whitish.

Primary pale grey, heavily suffused with fuscous in parts; a dark costal patch near the base, beyond which is a smaller one from which the dark interrupted antemedial line runs nearly to the inner margin; a dark patch of scales in the cell beyond this; a broad medial transverse fuscous band, well beyond which is the black dentate postmedial line, which is strongly angled basewards on vein 2 so as to touch the fuscous band between that and the inner margin; beyond this is an extensive suffusion of dark grey, in which is the subterminal line of short black dashes. Secondary greyish brown, darker towards the termen and apex.

♀. Uniform gale grey with no dark suffusion, the transverse lines only being present with the tuft of scales in the cell.

Expanse: ♂ ♀ 22 mm.

Hab. Dinawa, January and February; Aroa River (Tring Museum).

The type is in my collection.

122. **Roeselia basifusca** spec. nov. (Pl. VI. f. 24).

♀. Head and collar whitish, the latter tipped with mauve; thorax brown, patagia pale grey; abdomen pale brownish.

Primary with the basal third and a large patch at the tornus brown; the broad band between these patches and the apical two-thirds greyish white; extreme base brownish white; antemedial line dark grey, very indistinct, strongly serrate, preceded by a purplish brown band, postmedial line in the whitish area serrate, curved and angled basewards below the cell; antemarginal line indistinct, projected outwards below the apex, then receding to the inner margin; an indefinite spot of raised scales near the end of cell; outer margin finely dark. Secondary whitish, shading into grey at the outer margin.

Expanse, 27 mm.

Hab. Dinawa, September.

One ♀ in my collection.

123. **Graphosia ochracea** spec. nov. (Pl. V. f. 36).

♀. Head, thorax, and legs ochraceous; abdomen greyish.

Primary ochraceous, slightly and finely irrorated with grey; an indefinite obscure grey spot two-thirds along the inner margin, and a very obscure terminal stripe of grey, otherwise there are no definite markings at all. Secondary somewhat hyaline, pale yellowish.

Expanse, 26 mm.

Hab. Aroa River, March.

The type is in my collection.

Acatapaustus gen. nov.

Palpi hairy, upturned, end segment erect, small; antennae pectinated for three-quarters; midtibiae one pair, hindtibiae two pairs of spurs.

Neuration: Primary with vein 2 from three-quarters along the cell, 3 from immediately below the angle, 4 and 5 from directly above the angle, 6 and 7 from just below the upper angle, 8, 9, and 10 stalked, on a long stalk from the upper angle, 11 from cell near upper angle. Secondary, 2 from well before the angle, 3 and 4 from the angle stalked, 5 from below the middle of the discocellulars, 6 and 7 stalked, 8 anastomosing shortly with 7 at the base.

Type: *A. basifusca* spec. nov.

124. **Acatapaustus basifusca** spec. nov. (Pl. VI. f. 25).

♂. Head, antennae, and thorax brownish, patagiae pale grey, abdomen greyish brown.

Primary pale brownish, with a dark very broad irregular medial stripe, with a short reflex fine dark line from the inner margin, beyond which the ground colour is whitish, expanding slightly along the inner margin nearly to the tornus; beyond this the colour is paler than the basal area, a postmedial irregular dotted line, termen finely dark. Secondary whitish, darker towards apex and termen.

♀. Like the *male*, but decidedly darker.

Expanse: ♂ 28, ♀ 33 mm.

Hab. Dinawa, September and January, ♂ *type*; Aroa River, ♀.

The type ♂ is in my collection, the ♀ from the Aroa River is in the Tring Museum.

125. **Acatapaustus ekeikei** spec. nov. (Pl. VI. f. 20).

Head and thorax pale grey, collar tipped with brownish, abdomen brownish grey.

Primary pale brownish grey, with a nearly straight broad darker medial band, finely edged on each side by a dark line, terminal area darkly suffused, with an obscure trace of a dark spotted postmedial line, between which and the medial band is a fine obscure oblique serrate line from the inner margin to about vein 5. Secondary pale greyish white, slightly darker towards the costa and apex.

Expanse: 28 mm.

Hab. Ekeikei, March.

The type is in my collection.

Subfamily LITHOSIINAE.

126. **Lambula aroa** spec. nov.

♂. Head and thorax brown, abdomen brownish grey.

Primary greyish brown, with a very broad darker band occupying the medial and most of the postmedial areas; termen finely dark, fringes dark, with paler extremities. Secondary uniform brownish dark grey.

Underside: in the primary there is a swelling on the costa above the cell, in the secondary the costa is produced into a slight dark swollen hairy lobe, below vein 8 is a tuft of pale hairs and a patch of androconia, whilst in the cell there is a tuft of long pale hairs.

Expanse: 22 mm.

Hab. Aroa River, April.

The type is in the Tring Museum, only one specimen taken.

127. **Lambula bilineata** spec. nov.

♂. Head, thorax, and abdomen grey. Both wings grey.

Primary with an antemedial and a postmedial broadish irregular dark grey line. Secondary thinly clothed with scales.

Expanse: 20 mm.

Hab. Aroa River, March.

The type is in the Tring Museum. Several specimens were taken.

128. **Scoliacma aroa** spec. nov.

♂. Head, thorax, and abdomen pale straw-yellow. Both wings very pale straw-colour.

In the primary the area below the cell is slightly deeper in colour, and there is an obscure indefinite darker patch in the postmedial area beyond the cell.

Expanse: 23 mm.

Hab. Aroa River, March.

The type is in the Tring Museum. One specimen taken.

129. **Scoliacma hampsoni** spec. nov. (Pl. V. f. 20. ♀; Pl. VI. f. 23. ♂).

♂. Head and thorax white, antennae pale brown, abdomen grey, legs greyish white. Both wings white, inner-marginal fold tinged with yellow. On the underside there is a pencil of longish cream-coloured hairs below the cell of the primaries, and on the secondaries another of shorter grey hairs near the base of the costa.

♀. Primary uniform greyish white, somewhat shining and smooth in texture, with a very fine dark costa. Secondary greyish white on the costal half, pale brownish on the inner-marginal half. Underside dark brownish grey in the cell to the costa and along the termen, inner-marginal area to the cell white. Secondaries darkish brownish grey, paler on the inner margin.

Expanse : ♂ ♀, 24 mm.

Hab. Dinawa, September; Aroa River (Mus. Tring).

The type is in my collection. This species will form a third section of the genus *Scoliacma* Meyr. It does not follow either of the sections given by Hampson in his *Lepidoptera Phalaenae* II. p. 102 (1900); the section will differ in the *males* by the antennae being pectinate and with bristles, by a tuft of long hairs below the cell, and by the presence of a large fold on the inner margin of the primary, covered below by a patch of androconia, whilst vein 11 from the end of the cell is curved basewards, anastomosing with 12. In the secondaries there is a tuft of hair on the costa, vein 7 from the cell is inclined upwards to the apex, and 8 is bent suddenly up to the costa. In the *female* the neuration is peculiar; vein 2 from near the end of the cell is strongly curved downwards, reaching the termen just above vein 1, veins 3 and 4 are stalked and slightly curved downwards, whilst vein 11 anastomoses ordinarily from about the middle of the cell; the inner margin is also slightly produced, but not so much as to form the large lobe so conspicuous in the *male*.

130. **Chrysoscota flavostrigata** spec. nov.

♂. Head yellow, with a small dark central spot, palpi yellowish tipped with black, thorax dark brownish, with yellow collar and patagiae, abdomen dark brown with extremity yellowish below.

Primary dark grey-brown, with a narrow central longitudinal streak, expanding out somewhat beyond the cell, whence it ascends obliquely to the costa, termen obscurely yellowish. Secondary uniform greyish black.

Expanse : 26 mm.

Hab. Aroa River, March and April.

The type and a second specimen are in the Tring Museum.

131. **Nishada melanopa** spec. nov. (Pl. V. f. 19).

♂. Head and frons sooty black; thorax chrome yellow; abdomen paler yellow; pectus roughly haired, black; legs sooty brown.

Primary unicolorous chrome yellow, secondary paler yellow; the fringed costal fold is deep, consisting of several layers of almost bare, flat, broad spatulate scales.

Expanse : 28 mm.

Hab. Dinawa, June—July; Aroa River (Tring Museum).

Type in my collection.

Acco gen. nov.

Palpi minute, upturned; proboscis present; antennae of ♂ with cilia, ♀ almost simple: midtibiae with one pair of spurs, hindtibiae hairy, with two pairs of long spurs; cell extremely short, not one-sixth the length of the wing.

Neuration: Primary, vein 2 from near end of cell, 3 and 4 stalked on a moderate stalk, 5 and 6 absent, 7, 8, 9, and 11 stalked, 10 absent; inner margin near base produced into a slight lobe with a tuft of long hairs. Secondary with costa produced near the base into a slight lobe, veins 2 and 3 stalked on a short stalk close to the base, 4 and 5 absent, 6 and 7 coincident in the *male*, on a very long stalk in the *female*, 8 short, free.

Type: *A. bicolora* spec. nov.

132. **Acco bicolora** spec. nov. (Pl. V. f. 21).

♂. Head and palpi blackish; anterior half of thorax white, posterior blackish; abdomen dark grey.

Primary dark grey, darkest beyond the cell; costa, apical area, and terminal area to near tornus pure white, defining the dark area by a curve. Secondary uniform dark grey.

♀. Similar to the *male*, but the dark area extends nearly halfway up the termen from the tornus, and there is a whitish stripe from beyond the middle of the inner margin into the white area.

Expanse: ♂ 18, ♀ 20 mm.

Hab. Dinawa, August and February; Aroa River (Tring Museum).

Type in my collection.

Pseudilema gen. nov.

♂. Palpi minute, porrect; antennae with bristles; midtibiae with one pair, hindtibiae with two pairs of spurs; costa straight to end of cell, a sudden knobbed projection, then slightly excavated to near apex, which is depressed; termen obliquely rounded; inner margin slightly excavated for the outer half. Secondary with apex highly excised, giving the costa the appearance of a lobe.

Neuration: Primary, vein 1*c* curved highly upwards and then suddenly downwards to near tornus, connected by a bar with 1*b* beyond the middle, vein 2 from cell beyond the middle, bent suddenly downwards so as to touch 1*c*, thence straight to the termen, 3 from near angle, 4 from the angle, both curved downwards towards the termen, 6, 7, 8, and 9 stalked from just beyond the cell, 6 bent downwards, 9 bent upwards, 10 from cell curved up to the costa, both 9 and 10 very short; the cell is extremely narrow for two-thirds, the veins nearly touching, when it suddenly and shortly expands. Secondary, vein 2 from well beyond the middle of cell, 3 from angle, 4 and 5 absent, 6 from upper angle, bent up shortly to costa, 8 coincident with 7 for nearly the half, then separating; a tuft of hairs below the cell in both wings, and a tuft in the cell of the secondaries. Both sexes have an anal tuft.

♀. The shape of the primary is normal, that of the secondary is practically square.

Neuration: Primary, vein 2 from beyond the centre, 3 from well before the angle, 4 from the angle, 6 bent down stalked with 7 from beyond the upper angle, connected by a bar with 8 to form an areole, 9, 10, 11 stalked from 8 by a bar

almost at right angles and touching 12 at the upper angle. Secondary with 2 absent, 3 and 4 stalked and widely divergent, 6 and 7 coincident, 8 bent down to touch 7 near base, then suddenly curved up to the margin.

Type: *P. dinawa* spec. nov.

133. **Pseudilema dinawa** spec. nov. (Pl. V. f. 17. ♀: 18. ♂).

♂. Head, thorax, and abdomen pale brown.

Primary uniform pale brown. Secondary very pale yellowish brown, inclined to be hyaline towards the costa.

♀. Precisely like the *male* in coloration.

Expanse: ♂ 24, ♀ 32 mm.

Hab. Dinawa, August and September; Aroa River (Tring Museum).

The type is in my collection. A small series was taken.

134. **Ilema ekeikei** spec. nov. (Pl. V. f. 16).

♂. Head and collar straw-yellow, thorax grey, abdomen yellowish grey, legs yellow, underside grey.

Primary moderately dark grey, with a broad costal stripe of straw-yellow, extending round the apex and narrowly down the termen to the tornus, also in a short dash from the base to the inner margin. Secondary uniform straw-yellow. The under surface is precisely like the upper surface.

Expanse: 39—40 mm.

Hab. Ekeikei, January and February.

The type is in my collection.

135. **Ilema dinawa** spec. nov. (Pl. V. f. 15).

♀. Head pale grey, thorax brown, abdomen grey, legs brown, tarsi all tipped with black.

Primary pale fawn-brown, darker below the cell, with a small black costal spot a quarter from the base; a small dark dot at the end of the cell, outer-marginal area darker. Secondary ochreous.

Expanse: 32—34 mm.

Hab. Dinawa, August and September.

The type is in my collection.

This species comes near *bipunctata* Wlk., but the absence of the black quadrate costal spot separates it, and the small black costal spot in my species is in a different position.

136. **Ilema costistrigata** spec. nov. (Pl. V. f. 30).

♂. Head, frons, and tegulae ochreous, thorax grey; abdomen grey dorsally, laterally and below ochreous; legs yellowish, with fore- and midtibiae and tarsi grey above.

Primary unicolorous grey, with a pale fine ochreous costa: fringes grey. Secondary very pale ochreous subhyaline.

Underside as above, but with the primary slightly darker.

♀. Exactly as the ♂, but all the colours rather intensified.

Expanse: 31—34 mm.

Hab. Ekeikei, August and September; Aroa River (Tring Museum).

Type in my collection.

137. **Ilema unicolora** spec. nov. (Pl. V. f. 31).

♀. Head, frons, and thorax pale ochreous ; abdomen and legs ochreous grey.

Primary unicolorous pale ochreous ; secondary ochreous white.

Expanse : 26 mm.

Hab. Dinawa, August ; Aroa River (Tring Museum).

The type is in my collection.

138. **Ilema hades** spec. nov. (Pl. V. f. 14).

♂♀. Head, frons, and thorax orange red ; hind part of thorax and abdomen blackish brown, sides of abdomen and below reddish : legs brown, forefemora orange red. Both wings unicolorous blackish brown, the primary with a small red basal dot.

Hab. Dinawa.

The type is in my collection.

139. **Ilema nivea** spec. nov. (Pl. VI. f. 21).

♀. Head, thorax, abdomen and legs white.

Both wings white : costa very finely dark ; below the costal area is dark grey, and all the veins are darkly marked out.

Expanse : 23 mm.

Hab. Dinawa, September.

The type is in my collection.

140. **Chrysaeglia bipunctata** spec. nov. (Pl. VI. f. 26).

♂. Head and collar yellow; patagia yellow with white extremities, with a large spot of dark metallic green; thorax white spotted with dark metallic green; abdomen white with yellow anal tuft ; forelegs blackish, mid- and hindlegs yellowish white.

Primary pearly white, with a large dark metallic green spot below the cell and a smaller one just beyond the cell. Secondary pure subhyaline white.

Expanse : 38 mm.

Hab. Mount Kebea, March and April ; *type* : Dinawa, August; Aroa River (Tring Museum).

Type in my collection ; several specimens.

141. **Oeonistis bicolora** spec. nov. (Pl. VI. f. 34).

♂. Head and antennae black, palpi crimson with end-segment dark ; thorax pale yellowish with dark centre, collar tipped with pink ; abdomen pale yellowish ; legs pinkish ; forelegs with blackish tibiae and tarsi, midlegs with tibiae and tarsi dark above.

Primary straw-yellow, with a fine crimson costa ; a bronzy dark dash in the upper part of the cell, the outer and lower half of the cell being margined by a very broad mark, the inner end extended at right angles to the inner margin. Secondary rather deeper yellow. Below the yellow colour is slightly suffused with pink.

Expanse : 42—44 mm.

Hab. Dinawa, May—June.

Type in my collection.

Paradohertya gen. nov.

Head smooth, antennae with fine cilia; midtibiae with one pair, hindtibiae two pairs of spurs of moderate length.

Neuration: Primary with vein 2 from near middle of cell, vein 3 near angle, veins 4 and 5 stalked from angle on a long stalk, 6 absent, 7, 8, 9 and 10 stalked, 7 from nearer apex than 10, 11 from cell. Secondary, 2 from near angle, 3 and 4 stalked on a long stalk from angle, 5 absent, 6 and 7 on a long stalk.

Type: *P. trifascia* spec. nov.

142. **Paradohertya trifascia** spec. nov. (Pl. IV. f. 36).

♂. Head white, frons irrorated with chestnut brown, thorax chestnut brown, patagiae tipped with white; abdomen greyish brown; legs chestnut brown with tibiae ringed with white.

Primary silvery white, with three broad transverse bands of chestnut brown, the posterior two angled basewards in the centre, the mid band slightly broken in one specimen. Secondary pale brown, slightly rufous, somewhat hyaline towards the base.

Expanse: 22 mm.

Hab. Aroa River, March.

The type is in the Tring Museum.

143. **Macaduma bipunctata** spec. nov. (Pl. V. f. 29).

♂. Head brownish, palpi pale reddish brown, thorax dark reddish brown, abdomen pale brownish grey, legs yellowish grey.

Primaries dark reddish brown, rather darker in the central area, in which are two small distinct white dots at the end of the cell near to each other, the one behind the other. Secondaries yellowish grey tinged with pale brownish near the apex and termen.

Underside: Primaries paler than above, with the costa narrowly orange yellow, broader towards the apex.

Expanse: 28 mm.

Hab. Dinawa (type), August; Aroa River (Tring Museum); and Ekeikei.

144. **Macaduma aroa** spec. nov.

♂. Head and thorax red-brown, abdomen yellowish brown.

Primary reddish brown, with a darker basal patch for a third of the wing, a dark dot at end of cell followed by a dark finely serrated postmedial line. Secondaries yellowish grey, with termen slightly dusky.

Expanse: 29—30 mm.

Hab. Aroa River, March.

The type is in the Tring Museum. Three specimens taken.

145. **Halone flavopunctata** spec. nov. (Pl. V. f. 28).

♂. Head and thorax brown spotted with yellow, abdomen dark brown, legs banded yellow and brown.

Primary reddish brown, spotted with yellow, three distinct costal spots and three on the outer margin; there is also a slight yellow tint in the brown of

the medial area, a dark dot beyond the cell. Secondary deep yellow, with the apical area broadly black, tapering down to the anal angle.

Underside: Basal half of primary yellow, outer half black; secondary as the upperside.

Expanse: 21—23 mm.

Hab. Dinawa, August; Aroa River (Tring Museum).

Type in my collection.

This species is near *sobria* Wlk., but the spots are different, as also is the general colour and absence of pattern.

146. **Garudinistis aroa** spec. nov. (Pl. IV. f. 37).

♂. Head lemon-yellow, patagiae and metathorax chestnut brown, abdomen yellowish brown.

Primary bright lemon-yellow, with a basal chestnut-brown patch margined by a dark line, and a large postmedial chestnut patch occupying about a third of the wing up to the tornus, darkly margined, and with a slight purple suffusion in certain lights. Secondary straw-yellow, with a broad dark terminal border.

Expanse: 20 mm.

Hab. Aroa River, March.

The type, unique, is in the Tring Museum.

147. **Scaptesyle aroa** spec. nov. (Pl. VI. f. 19).

♀. Head white, palpi brown, thorax white, with brown collar, with a central brown stripe, and the patagiae edged internally with brown; abdomen whitish; legs alternately spotted brown and white on the upperside.

Primary white, with basal, antemedial, medial, postmedial, and subterminal broadish brown lines, the first three joined by a dash along the lower margin of the cell; the subterminal and postmedial are very confluent, only being separated by a row of white spots, and the latter is joined to the medial line near the upper angle of the cell, whilst the subterminal line is projected forward into the termen by a broad dash on vein 4. Termen narrowly brown, with white tesselated fringes. Secondary with broad brown termen tapering finely towards the tornus; the apex is white, but is margined internally by the brown terminal area.

Expanse: 34 mm.

Hab. Aroa River, March.

The type, unique, is in the Tring Museum.

148. **Chionaema albomaculata** spec. nov. (Pl. IV. f. 35).

♂. Head white, collar and patagiae pale brown, the latter with a large white spot; thorax and abdomen brown.

Primary pale brown, with five white spots—viz., a small costal one above the middle of the cell and a large one below on the inner margin, a large costal one beyond the cell and one on the inner margin nearer the tornus, and a large one at the apex; fringes whitish; the cell is wholly covered by a large tuft of pale brown long hairs. Secondary ochreous brown, inclined to be diaphanous.

Expanse : 20 mm.

Hab. Aroa River, January and March.

The type and a second specimen are in the Tring Museum.

149. **Chionaema aroa** spec. nov.

♂. Head and thorax blackish, abdomen dark grey.

Primary dark grey, thickly irrorated with blackish, having a bronze hue, an obscure dark antemedial and postmedial indefinite band ; from the costa is a dark tuft of long hairs, extending over into the cell ; the tuft begins at a quarter from the base, and extends to beyond the end of the cell. Secondaries darkish grey, paler near the base.

Expanse : 28 mm.

Hab. Aroa River, April.

The type is in the Tring Museum.

150. **Chionaema brunnea** spec. nov.

♂. Head brown ; thorax brown, with a whitish central streak ; abdomen greyish brown.

Primary brown, somewhat shining and slightly irrorated with grey in parts : at the end of the costal tuft is a pale patch with a pale streak below the cell and a pale inner margin ; a nearly erect serrate pale postmedial line ; termen paler. Secondary uniform brownish grey, darker at the base.

Expanse : 28 mm.

Hab. Aroa River, February.

The type, unique, is in the Tring Museum.

151. **Chionaema dinawa** spec. nov.

♂. Head and thorax black, mesothorax and patagia scarlet, abdomen and legs black, underside of abdomen scarlet.

Primary scarlet, with a fine black border all round, except the outer half of the inner margin, where it is broader, the costal patch of hair black. Secondary chrome yellow, with very broad black apical area tapering to the anal angle ; inner margin broadly black, tapering up to the base.

Underside : Primaries, basal half chrome yellow, outer half black. Secondaries, as upperside.

Expanse : 29 to 32 mm.

Hab. Dinawa, August.

Types in my collection.

152. **Chionaema charybdis** spec. nov. (Pl. V. f. 27).

♂. Head and thorax bronzy black, abdomen and legs pale greyish.

Primary dark blackish bronze-colour, with basal black line curved and dentate, median black band obscure, postmedial line strongly serrate and irregular, beyond which is a broad band of confluent black dashes, marginal black line strongly serrate. Secondary greyish, darker on the margins, with a distinct dark cell-spot.

♀. Like the male, but with the medial band of the primary replaced by a dentate stripe, on each side of which is a black spot in the cell. Secondary darker than in the male.

Expanse: ♂ 32, ♀ 38 mm.

Hab. Dinawa, September.

Type in my collection.

153. **Cleolosia aroa** spec. nov. (Pl. VI. f. 29).

♂. Head and thorax white, collar finely brown. Abdomen brownish.

Primary white, with a dark costal spot near the base; a medial irregular line, beginning in a darkish patch on the costa and angled outwards in the cell, with which is continuent, below the cell, a fine dark line commencing on the costa nearer the apex and angled boldly outwards, a subterminal very interrupted dark line; termen very finely dark and spotted in the vein interspaces, with tesselated white and brown fringes. Secondary whitish, with a trace of a postmedial fine line, and a fine darker termen.

Expanse, 25 mm.

Hab. Dinawa, September.

The type is in my collection.

154. **Asura ochreomaculata** spec. nov. (Pl. V. f. 26).

♂. Head orange yellow; thorax dark grey striped with orange; patagia orange tipped with dark grey; abdomen orange yellow, banded near the end with dark grey; legs, femora, and tibiae red banded with dark grey; tarsi deep orange tipped with dark grey.

Primary dark grey with a curved basal spotted pink stripe; medial and postmedial stripe spotted and pink. Between the basal and medial stripes is a large pale ochreous spot on the inner margin and a smaller one on the costa; a row of reddish marginal dashes. Secondary yellow with very broad dark grey apex and outer margins tapering somewhat to the anal angle.

Expanse, 31 mm.

Hab. Dinawa, August.

Type in my collection.

155. **Asura flaveola** spec. nov. (Pl. V. f. 22).

♂. Head and thorax pale canary-yellow; abdomen paler; fore- and mid-tibiae darkly banded; foretarsi dark, mid- and hindtarsi darkly tipped.

Primary pale canary-yellow, basal dark line, angled inwards on vein 12, outwards in the cell, medial line angled inwards in the cell and connected with the basal line, then angled strongly outwards, and curved strongly inwards to the inner margin, and connected with both the basal and postmedial lines on submedian fold and vein 2 respectively, postmedial line rising nearly midway between the medial line and the inner angle, then excurved strongly, then receding near the costa, an oblique dash on vein 9 to the cell and a series of dashes beyond the line, but more or less connected with it, those on veins 4, 6, and 7 the longest. Secondary pale sulphur-yellow.

Expanse, 24 mm.

Hab. Dinawa, September.

Type in my collection.

This species comes next to *sagenaria* Wllgr., but may be known by the spotless head and thorax and the different transverse lines, whilst the colour is also different.

156. **Asura brunneofasciata** spec. nov. (Pl. V. f. 24).

♂. Head and thorax chrome yellow; abdomen paler but deeper at the anal extremity; legs yellow: forefemora dark above; all the tibiae and tarsi darkly banded.

Primary pale yellow, with the basal line angled and curved sharply outwards in the upper part of cell, thence receding to the inner edge, very broadly confluent below the cell with the postmedial line, which is very broad, angled inwards at the end of the cell and again angled and recurved above the inner margin, and confluent with the subterminal line which is composed of confluent spots mostly confluent with the postmedial line; marginal area and fringes spotless yellow. Secondary very pale yellowish, slightly deeper at the margin and fringes.

♀. Exactly like the *male*, but with the apex slightly folded over and the fringe commencing on the costa.

Expanse, ♂ 26, ♀ 27 mm.

Hab. Dinawa, August and September; Aroa River (Tring Museum).

Type in my collection.

157. **Asura unicolora** spec. nov. (Pl. V. f. 25).

♂. Head and thorax ochreous; abdomen pale greyish; legs ochreous with fore- and midtibiae darkly banded.

Primary uniform spotless very pale ochreous, slightly deeper on the inner margin below the cell; costa finely edged with dark grey for the basal three-quarters. Secondary ochreous white, subhyaline.

Expanse, 22 mm.

Hab. Dinawa, September; Aroa River (Tring Museum).

The type is in my collection.

158. **Asura sagittaria** spec. nov. (Pl. V. f. 23).

♂. Head and thorax ochreous, abdomen greyish.

Primary ochreous, with basal medial and postmedial dark grey lines, the first and last serrated; basal and medial joined by a dark dash below the cell; beyond the postmedial is a fourth line strongly serrated and confluent in parts with it; from the end of the cell is a dark arrow-shaped mark running basewards in the cell. Secondary creamy white.

Expanse: 28 mm.

Hab. Dinawa, August.

The type is in my collection.

This species is near *flavida* Butl., but can be separated at once by the prominent arrow-shaped mark in the cell.

159. **Asura rosacea** spec. nov.

Head, thorax, antennae, and abdomen rose-pink. Abdomen paler than thorax.

Primary rose-pink immaculate, but with a trace of greyish shading in the postmedial area; costa finely dark from the middle; fringes dark. Secondary paler pink than the primary, with dark grey fringes.

Expanse: 22 mm.

Hab. Dinawa, August; Aroa River (Tring Museum).

The type is in my collection.

160. **Asura dinawa** spec. nov. (Pl. V. f. 38).

♀. Head and thorax darkish grey, mixed with pink scales; abdomen pinkish ochreous; legs pink, all the tibiae banded with dark grey at their extremities.

Primary ochreous pink; basal half strongly suffused with dark grey, near the margin of which three spots of the ground colour show distinctly across the wing, one on the costa, one in the cell almost confluent with a larger one on the inner margin; the rest of the wing spotless; outer half of costa and outer margin deep dull crimson, with an inner edging of dark grey scales; fringes dark grey. Secondary pinkish ochreous, shading into pink on the outer margin; fringes slightly darker.

Expanse: 27—28 mm.

Hab. Dinawa, August.

The type is in my collection.

161. **Asura aroa** spec. nov. (Pl. V. f. 37).

♂. Head and thorax vermilion-red, abdomen ochreous.

Primary vermilion-red, crossed by four transverse strongly serrated fine dark grey lines, two in the medial area and two near together in the postmedial area; all the veins are marked out in pale yellow, termen finely and darkly dotted. Secondary uniform pale pinkish.

Expanse: 23 mm.

Hab. Aroa River, March, *type*; Owen Stanley Range.

The type is in my collection.

162. **Schistophleps bicolora** spec. nov. (Pl. V. f. 40).

♂. Head and collar pale grey, thorax and abdomen whitish, legs greyish.

Primary whitish, with three costal greyish brown patches, that near the base being very oblique and reaching below the cell, almost touching a dark dash in the centre of the inner margin; the second patch large above the end of the cell; the third before the apex, small and obscure; terminal area dusky. Secondary greyish, paler in the anal area.

Expanse: 24 mm.

Hab. Aroa River, March; Aroa River (Tring Museum).

The type is in my collection.

163. **Schistophleps aroa** spec. nov.

♂. Head and thorax greyish white, the latter irrorated in parts with dark grey; abdomen pale greyish, with a whitish extremity.

Primary greyish white, with an antemedial strongly serrate dark grey line; a

small dark spot at the end of the cell, followed by an irregular dark postmedial line, with a largish dark grey suffusion in front of the apex, confluent with the costal portion of this line, termen dark with a dark grey fringe. Secondary uniform slightly greyish white, with a very fine dark termen.

Expanse : 22—24 mm.

Hab. Aroa River, April.

The type is in the Tring Museum.

164. **Eugoa tricolora** spec. nov. (Pl. V. f. 13).

♀. Head and thorax fuscous grey ; frons ochreous ; abdomen ochreous, with dorsal grey segmental bands ; legs ochreous grey, with ochreous tarsi.

Primary white, with a basal fuscous grey small spot and a subbasal costal spot, a large fuscous grey inner-marginal medial patch, and a small costal one confluent across the cell ; a dark dot in the cell ; the whole of the postmedial area fuscous grey, with a submarginal interrupted and very irregular white line. Secondary uniform pale ochreous.

Expanse : 24 mm.

Hab. Dinawa, August ; Aroa River (Tring Museum).

The type is in my collection.

This species is near *aequalis*, but can be readily separated by the suffusion of the postmedial area and the pale ochreous secondary.

165. **Eugoa conflua** spec. nov. (Pl. V. f. 12).

♂. Head and thorax fuscous grey ; collar and patagia tipped with ochreous ; abdomen greyish, tipped with ochreous ; legs grey on the exterior, ochreous on the interior.

Primary fuscous grey ; basal area, except costa, creamy white ; medial stripe, also whitish, broad on the costa, expanded into an oval in the cell and darkly spotted, dentate below this ; submarginal stripe traceable by a series of irregular spots. Secondary uniform pale ochreous.

♀. With the primary almost entirely suffused with fuscous grey, with small creamy white basal area, costal and apical patches.

Expanse, ♂ ♀ : 26 mm.

Hab. Dinawa, August and September.

The type is in my collection.

Family *NOCTUIDAE*.

Amphoraceras gen. nov.

♂. Antennae with bases broadly dilated and curved over from the exterior, carrying an arch of dense hairs, the dilation suddenly tapering and the antennae becoming simple ; palpi upturned, roughly scaled to the tip, end-segment swollen and thickened, proboscis well developed ; legs somewhat hairy : tarsi bare, midlegs with two rows of fine spines the entire length of the tarsi, hindlegs with two pairs of tibial spurs and a double row of fine spines also on the tibiae ; tarsi finely spinose all their length, like the midlegs.

Primary with veins 8 and 9 anastomosing to form an areole, 10 from the

areole. 11 from the cell. Secondary of the usual Noctuid neuration. Apex slightly excavated immediately below posterior margin, then slightly produced, tapering off in a bold curve to the inner margin.

♀. Palpi with the end-segment long, not roughly scaled, looking almost bare in the heavy rough scaling of the second segment; antennae simple all the length.

166. **Amphoraceras rothschildi** spec. nov. (Pl. V. f. 1).

♂. Head and collar deep velvety brown; frons and palpi pale reddish brown; thorax pale brown, closely and finely irrorated with pale grey, with a black patch on the centre at the abdominal juncture; abdomen orange yellow, with a tapering black dorsal patch.

Primary cinnamon-brown, darker beyond the second medial line, the basal line deep red, close to the base, from the costa to the lower margin of the cell; basal area tinged with pale lilac grey, the medial lines shaped like an inverted A, whose inner line is curved from the costa to the inner margin and whose outer line is oblique and nearly straight; this fascia has a fine central line of deep red, finely edged on each side with lilac, which is again edged indefinitely with paler reddish; within this fascia are the orbicular and reniform stigmata, the former round, deep velvety red-brown with a lilac iris very finely edged with dark red, the latter (the reniform) quite pale grey, with two pairs of spots from the centre and a fifth spot in the lower outer corner; this stigma is also edged with dark red, and beyond it is a wedge-shaped patch of pale grey. From the costa to the end of this patch is a broad band of dark brown adjoining the end of the outer medial line, a subapical costal large dark-brown patch; submarginal area paler, with a row of small rust-coloured spots close to the margin. Secondary orange yellow, with the basal half black.

Underside ochreous in both wings; primaries with the cell very hairy, and the postcellular area shortly and densely haired, giving it a velvet texture; terminal area with a few scattered dark scales; secondaries with the outer three-quarters sparingly irrorated with dark scales.

♀. Similar to the *male*, but paler. In the primary the basal area and the filling-in of the inverted-A-shaped mark is a very delicate pale lilac grey; the reniform stigma has no dark spots on it, and the postmedial area is much redder, whilst the submarginal area is paler and lilac-coloured; the rust-coloured spots are larger and more distinct. The contrasts of colour in this sex make it a very beautiful insect.

Expanse: ♂ 84, ♀ 86 mm.

Hab. Dinawa, August.

I dedicate this most unusual-looking and handsome *Noctuid* to the Hon. Walter Rothschild.

Type in my collection.

Parabasis gen. nov.

♂. Palpi upturned, roughly scaled, end-segment deflexed, not reaching to the vertex of the head; antennae pectinate for three-quarters; legs hairy; tarsi smooth; midtibiae with one pair of spurs, hindtibiae with two pairs of long stout spurs.

Neuration: Primary with vein 3 well before the angle, 4 from the angle, 5 from the middle of the cell, 6, 7, 8 stalked, 6 from the areole, 9 from 10 anastomosing with 8 to form a long areole, 11 from the cell, long. Secondary: vein 3 from before the angle, 4 from the angle, 5 from middle of cell, 6 and 7 stalked, 8 lying on 7 for one-third; close to the base of 8 a short sharp spur is emitted at right angles to the vein. Costa nearly straight, apex slightly depressed; termen rounded; secondary long, rather narrow.

Type: *P. pratti*.

167. **Parabasis pratti** spec. nov. (Pl. IV. f. 26).

♂. Head, thorax, and abdomen clear chrome yellow, thorax with a triangle of three black spots at the back; antennae yellow in black sockets; palpi black internally, broadly yellow externally; legs yellow with jet black tarsi.

Primary pure pale yellow, with a black basal spot and two larger black costal spots near the base, and a submarginal row of eight black spots, the first at the apex very small, the second and sixth the largest; between the two black costal spots the subcostal area is pale sulphur-yellow, a large pale sulphur patch below the cell, a larger one above and beyond, covering the end of the cell: between this and the inner angle two oblique patches, below which is a broad inner-marginal dash; above the largest patch at the end of the cell is an oblique stripe from the costa to the oblique patches. All these pale sulphur patches are broadly encircled and separated from each other by a suffusion of brick-red scales. Fringes yellow, interrupted by a small black patch opposite the sixth spot. Secondary yellow, with a small black submarginal spot below the apex, and a trace of a very fine submarginal row below it. Fringes uniform yellow.

Expanse: 65 mm.

Hab. Dinawa, August.

Type in my collection. It is absolutely unlike anything at present known.

168. **Collusa ekeikei** spec. nov. (Pl. VI. f. 42).

♂. Head, thorax, and abdomen ochreous grey, palpi dusky.

Both wings pale ochreous grey. Primary with two irregular dark lines, a dark spot in the cell near the posterior line and a larger one beyond it; an oblique postmedial line rising in a dark triangular patch on the costa near the apex, followed by a waved row of dark points; a dark patch below the apex on the termen. Secondary with a darkish irregular line near the base; an oblique postmedial line followed by a curved row of dark points, from which points arise an evenly serrated line.

Expanse: 56 to 60 mm.

Hab. Ekeikei, January and February; Mount Kebea, March and April.

The type is in my collection.

BEOBACHTUNGEN AUF TENERIFE.

Von RUDOLF VON THANNER.

WÄHREND eines mehr als zweijährigen Aufenthaltes und täglicher Beobachtung auf obgenannter Insel habe ich mir an der Hand meiner Daten ein kleines Urteil bilden können, welches natürlich keine bestimmten Normen festsetzt, immerhin aber ein Durchschnittsbild abgeben dürfte, wie sich der Vogelzug auf den Canaren in den meisten Jahren abspielen wird.

Tenerife dürfte für diesen Zweck die günstigste Insel sein. Erstens fällt dem wandernden Vogel gleich dem Menschen, sobald er sich dem Archipel naht, der Pico de Teyde schon auf grosse Entfernung in die Augen und bietet auf diese Weise dem ermüdeten Wanderer eine Art Anziehung. Zweitens erfüllt Tenerife eine andere sehr wichtige, oder vielmehr die wichtigste Bedingung. Durch seine Vielseitigkeit in der Bodenbeschaffenheit—die sterilen, trockenen, ja teilweise wüstenartigen Küsten des Südens, den grüneren, feuchteren Norden und die in der Mitte eingebettete, humusreiche, von Gräben durchzogene und mit Wasser gesättigte Erde der fruchtbaren Ebene von Laguna, und die ebenfalls feuchten Reste der Laubwaldungen (Lorbeer, Heidekraut, u.s.w.) schafft es einen Aufenthalt, der jedem der Durchzügler mehr oder minder seine Specialität bietet.

Trotz dieser verhältnismässig günstigen Bedingungen ist das Auftreten von Durchzüglern ein recht minimales und nur einzelne Arten scheinen, wie ich während dieser kurzen Zeit beobachtet habe, regelmässige Besucher zu sein.

Was die von vielen Ornithologen hierüber gemachten Beobachtungen betrifft, so fallen diese meistenteils in eine zu kurze Spanne Zeit, oder, was ja natürlich ist, der betreffende Forscher interessierte sich hauptsächlich für die canarischen Arten. Andererseits halten sich hier die meisten Reisenden in dem schöneren Norden der Insel und im Frühjahre auf. Im Frühjahre ist jedoch der Norden beinahe gar nicht von Wandervögeln besucht, sondern der natürliche Anflug ist der Süden. Im Frühjahre ist auch der Süden durch die Winterregen gerade während der Zugperiode am produktivsten im Pflanzenwuchse, und infolge dessen auch für die Vogelwelt nahrungsergiebiger an Insekten.

Der Süden der Insel wurde wenig oder höchst selten besucht. Die Orte sind weniger bekannt, bieten schlechte oder gar keine Unterkunft—es wird von ihnen überhaupt nicht viel gesprochen.

Der ornithologisch bekannteste Teil ist die Umgebung von La Laguna. Dort wirkte Dr. A. Cabrera, welcher die Seltenheiten der Insel selbst sammelte und seine Belegexemplare befinden sich im Instituto de Canario der obgenannten Stadt, teilweise aufgestellt, teilweise in Bälgen.

Wie wenig der Süden, speciell die trostlosen Küstengegenden, besucht worden sind, zeigt das Vorhandensein von *Erythrospiza githaginea amantum* Hart., den ich diesen Sommer fand. Durch seinen Ruf wäre er Jedermann aufgefallen! Ich kannte zwar denselben nicht, als ich ihn zuerst vernahm, und suchte mir denselben von einer Schaar *Petronia petronia madeirensis* (Erl.) abzuleiten, die ein Sperber besucht haben dürfte. Als ich näher trat, erkannte ich jedoch gleich durch das Glas die Urheber dieser Musik und erlegte einige Exemplare. Bei darauf vorgenommenen Excursionen nach anderen Teilen dieser Küste fand ich den Vogel

auch dort. Er wurde mir auch von einem Einwohner, der sich für Vögel interessierte, mit dem Namen "Moro" bezeichnet. Derselbe hatte auch versucht diesen Vogel mit *Serinus canariensis* (L.) zu kreuzen, was ihm jedoch nicht gelang.

Von den regelmässig auftretenden Zugvögeln möchte ich *Turdus musicus*, *Anthus arboreus*, *Motacilla alba* und *Vanellus cristatus* erwähnen. An den Küsten finden sich dann ebenfalls regelmässig *Actitis hypoleucus*, verschiedene *Tringa*- und *Totanus*-Arten, *Strepsilas interpres*, *Charadrius* und *Ardea cinerea* ein.

Ein schönes Beispiel, wie sich viele Sachen einfinden, wenn selbe ihre Lebensbedingungen zu finden glauben, ist folgendes. Im Jahre 1901 trat zur Frühjahrszeit andauernder starker Regen ein, der die feuchte Ebene von La Laguna so mit Wasser durchtränkte, dass die Gräben überliefen und sich an vielen Stellen Lachen bildeten. Dies sowie im Vereine damit die mit Rohr bestandenen Wassergräben lockten zahlreiche Enten (hauptsächlich *Anas boschas*), Bekassinen (*Scolopax gallinago*) und Kiebitze an. Einzeln kommen diese Arten ja *jedes Jahr* vor, aber in solcher Zahl wie damals nur in besonders feuchten Jahren. Dieser Vorgang dürfte auch ein Beweis dafür sein, dass wohl ein Teil des Zuges über die Inseln geht und, wenn die Bedingungen vorhanden sind, auch die Besucher nicht fehlen. Durch das sonst nur spärliche Auftreten vereinzelter Stücke möchte man sehr leicht verleitet werden zu sagen, es wäre kein Zug. Diese vereinzelten Stücke, speciell bei den Wasser- und Sumpfvögeln, sind meiner Meinung nach von grösseren Flügen abgetrennte Exemplare, die dann je nach ihrem Wohlbefinden kürzer oder länger verweilen.

Passerina nivalis, *Turdus pilaris* (im Instituto in La Laguna), *Hypolais pallida* (im Museum zu Tring und von mir erlegt) sind natürlich als Irrgäste zu betrachten.

Mein Aufenthaltsort, Vilaflor, liegt leider für die Beobachtung von Wandervögeln sehr ungünstig (ca. 1400 m. hoch). Die Küste ist entschieden günstiger. So konnte ich im Vorjahre an einem Morgen *Lanius rufus*, *Saxicola deserti*, *Falco subbuteo* und *Circus pygargus* beobachten und von ersteren Belegexemplare sammeln. *Falco subbuteo* beobachtete ich auch im vergangenen Herbst und fehlte ihn leider einmal.

Für den Vogelzug wären hier einzelne sehr interessante Punkte vorhanden, speciell an den in letzter Zeit neuangelegten Wasserbehältern, gleichsam eine Art Teiche, und durch die dort angebauten Futterpflanzen, Bananen und Tomatenanlagen. Ich sah dort während nur wenige Stunden zählenden Aufenthalten mehrere interessante Vögel und es wäre wohl der Mühe wert, dort tägliche Beobachtungen anzustellen, was gewiss interessante Ergebnisse liefern würde.

Von den Brutvögeln Tenerife's ziehen im Herbste nur die *Apus*-Arten und *Turtur turtur* vollkommen weg. *Upupa epops* zieht in seiner Mehrzahl ab, nur einige wenige bleiben zurück.

Die Beobachtung Herrn Meade-Waldo's bezüglich eines Zuzuges von *Turdus merula* möchte ich auf einen Irrtum zurückführen. Die hier ansässige Amsel, *Turdus merula cabrerae*, streicht in den verschiedenen Jahreszeiten innerhalb der Insel hin und her. Als Winteraufenthalt möchte ich die verschiedenen Laubwaldungen und auch die Orte bezeichnen, wo Orangenkultur betrieben wird. Im Frühjahre, wenn sich die Feigen- und anderen Obstbäume zu belauben beginnen, findet von ersteren Gegenden ein Zuzug nach dem Süden statt, wo sich im Winter, ausser in den oberwähnten Orangenpflanzungen, gar keine oder nur einzelne befinden. Hier in dieser Höhe bleiben nur einzelne Stücke zurück und zwar nur

Männchen, die vor Einbruch der Nacht dem Pinienwalde zufliegen, von wo sie bei Morgengrauen in die Brombeerhecken des Ortes zurückkehren. In den reinen Kieferbeständen halten sie sich während des Tages nie auf. Im Herbste, wenn die Trauben reifen, kommen sie in grosser Zahl nach hier, um nach der Ernte wieder ebenso schnell zu verschwinden. Dieser Zuzug macht auf jeden Beobachter den Eindruck als käme er von auswärts, da er ja auch gerade in die Herbstzugzeit fällt. Die Amseln werden dann auf ihren Schlafbäumen von eifrigen Jägern herabgeschossen. Ich nahm mir die Mühe diese Jagdbeute öfters anzusehen und Messungen vorzunehmen, konnte jedoch immer nur *Turdus merula cabrerae* vorfinden, sodass ich einen fremden Zuzug für ausgeschlossen halte. Über die Prozedur der Massabnahme herrschte unter den Leuten grosses Staunen—doch es gab ja ein Gespräch und damit einen Zeitvertreib, was für die guten Menschen die Hauptsache ist. Was die Bemerknng Dr. Hartert's (*Noritates Zoologicae*, vol. viii. Oktober 1901, p. 313) über die Zahl der Eier betrifft, so muss ich sagen, dass die zahlreichen Gelege, die ich durchsah nnd auch teilweise ausnahm, gewöhnlich 4, manchmal auch nnr 3 Eier hatten.

Wie leicht man bei flüchtigem nnd selbst bei längerem Aufenthalte einen Vogel übersieht, geht daraus hervor, dass *Passer hispaniolensis* ein sehr häufiger Brutvogel in den Gärten von St. Cruz de Tenerife ist. Angeblich ist er dort eingeführt worden, jedenfalls aber ist er dort jetzt gemein. Dr. Hartert sah ihn daselbst 1885, aber mehrere Reisende haben sein Vorkommen auf Tenerife gelengnet. Er kommt auch auf Las Palmas vor.

Anfangs Jänner erlegte ich an einem und demselben Tage zwei interessante Vögel, nämlich: Ein Männchen von *Dendrocopus maior canariensis* mit rosarot gefärbten Federn an beiden Seiten der Oberbrust nnd einen uralten Hahn von *Caccabis petrosa koenigi* mit braunen Federn in der Mitte der Oberbrust, gleichsam dem Schilde des Rebhuhnes entsprechend, nur schwächer ansgebildet. Sonst sind beide Vögel normal gefärbt, nur ist der *Caccabis* das stärkste Stück von ca. 150 von mir erlegten Hühnern dieser Art. Nach meinen Maassen beträgt der Durchschnitt der Totallänge 36·3 Centimeter, während obgenanntes Exemplar 38·5 cm. misst.

Obgleich diesem schönen Huhne auf alle Weise und zn jeder Jahreszeit nachgestellt wird, ist der Bestand im Süden der Insel ein guter zu nennen, was hauptsächlich der Aufsicht der vor einigen Jahren eingeführten Guardia civil (Gensdarmerie) zu verdanken ist. Leider sind die einzelnen Posten zn weit von einander entfernt und das Personal ein sehr geringes, während das zugewiesene Terrain ein sehr schwieriges und ausgedehntes ist. Das Huhn kommt wohl auch in sehr geringer Anzahl auf der Cumbre d. i. oberhalb des Pinienwaldes vor, sein Hauptverbreitungsbezirk ist jedoch unterhalb des Pinares bis zur Küste herab. Im Dezember und Jänner, hauptsächlich in letzterem Monate, lösen sich die Völker auf und leben dann paarweise.

In den Pinienwäldern des Südens hält sich *Columba livia* sehr häufig auf, wo sie mit Vorliebe den ausgefallenen Samen der Kiefernzapfen aufnimmt. Bemerkenswert ist, dass man sie dort nicht nur ausnahmsweise aufgebäumt findet, sondern dass, wenn sie von einem Baume aus irgend einem Grunde abstreichen, sie sich bald auf einem anderen niederlassen. Ich jagte sie so ab und zu und beobachtete dieses Benehmen, so oft ich in den Pinienwald kam. Die dunkle Form, wie ich sie in Madeira erlegte, konnte ich unter den vielen, die mir hier in die Hände kamen, niemals beobachten. Die Taube wird hier grösstenteils an

der Tränke gejagt, oder man streut etwas Hafer und schiesst sie am Futterplatze. Dasselbe gilt für das schöne Felsenhuhn. Oft hört auf diese Weise mit einem Schusse der Bestand einer ganzen Kette auf. Die Hühner werden auch mit Zugnetzen gefangen. Eine andere Mordart für die Steinhühner ist das Aufrichten eines schweren Steines, der durch einen Stab gestützt ist. Unter den Stein werden einige Samenkörner gelegt. Stösst der Vogel nun an den Stab so wird er von dem niederfallenden Steine erdrückt. Diese Fangart wird auch auf *Emberiza*, *Calandrella* und *Petronia* angewandt, hauptsächlich an der Südküste.

Einer der bestgehassten Vögel ist *Corvus corax canariensis*. Wo sich ihm etwas zum Fressen bietet, ist er der erste und umkreist mit Verlangen jeden ihm gut dünkenden Gegenstand. Selbst die landesüblichen Sättel (Alvardas genannt) zerzaust er mit seinem Schnabel, wenn sie dem Maultiere abgenommen werden und der Führer sich von ihnen entfernt. Sie sind nämlich mit irgend einem Felle überzogen, das nur an der Sonne getrocknet ist und deshalb für den Raben immerhin noch ein Leckerbissen ist. Die Raben leiden hier allerdings wohl oft Hunger. Ich habe noch nie einen gut genährten Raben angetroffen, obwohl ich jeden, der mir begegnet, zu schiessen versuche. Im Vergleiche mit unserem Raben ist er sehr empfindlich und ich habe bis jetzt alle mit Hühnerschrot auf jede schussbare Distanz heruntergeholt. Mir fiel dies im Vergleiche zu unserem Kolkraben (*Corvus corax*) anfangs sehr auf. Es ist aber sehr erklärlich: Der Canarier ist bedeutend leichter gekleidet und das Gefieder viel lockerer. Hier brütet er hauptsächlich in Felsen oder auf alten Pinien, in den Anagabergen auch auf Laubbäumen. Zur Zeit der Kornernte—Ende Juni—erscheint er zum Missvergnügen der Isleños mit seinem hoffnungsvollen Nachwuchse in grossen Schaaren.

Regulus tenerifae kommt in den reinen Pinienwaldungen des Südens und Südwestens nicht vor, wohl aber in dem Teile des Pinar's, der sich von Guimar nordöstlich in der Richtung gegen den Weiler Esperanza (oberhalb Laguna) erstreckt und wo dieses Vögelchen wenigstens etwas Unterholz (Codezzo) vorfindet.

Die von Herrn Prof. Koenig als spärlich angeführte *Sylvia melanocephala leucogastra* kommt im Norden der Insel und bei La Laguna und Esperanza tatsächlich recht spärlich vor. In diesen Gegenden bevorzugt der kleine Lärmmacher die höheren Lagen. Sein Hauptaufenthaltsort ist wohl der Süden der Insel, dort, wo sich die dickstengelige Wolfsmilch zu zweimal Manneshöhe erhebt und einen Umfang von Zimmergrösse erreicht. Aus der Mitte dieser Euphorbienart spriesst ein anderes strauchartiges Gewächs hervor, welches sich gewöhnlich, wenn es in seinem Wachstume die Wolfsmilch eingeholt hat, oberhalb derselben etwas ausbreitet. Dort, wo diese beiden Pflanzen gleichsam ineinander verwachsen vorkommen, ist dieser niedliche Vogel zu Hause—doch immerhin in sehr geringer Anzahl. Hat man seinen etwas an *Sylvia cinerea* oder *nisoria* erinnernden Warnungsruf vernommen und nähert man sich dem mächtigen Strauche auf eine Entfernung, dass man ihn noch gut übersehen kann, so tut man am besten, sich dort niederzusetzen und dem Strauche seine volle Aufmerksamkeit zu schenken. Nach einiger Zeit wird man den stets in diesem Gewirre von Asten und Zweigen herumhuschenden Vogel oder dessen Schatten erblicken und beides wird ebenso schnell wieder in das dunkle Innere dieser Gewächse verschwinden. Dieses Schauspiel kann sich noch einige Male wiederholen, ohne dass man den Vogel recht zu Gesicht bekommt. Doch auf einmal sitzt der kleine Kobold mit aufgesträubten Kopffederchen und schief nach oben gestelltem Schwanze auf einem der senkrecht nach oben strebenden Zweige, bläst

seinen Warnungsruf in's Freie, um im Handumdrehen im selben oder nächsten Wolfsmilchstrauche zu verschwinden, und sich dort eventuell noch weniger sichtbar zu machen. Das Sammeln dieser Sylvienart—speciell für den, der ihr Benehmen noch nicht gründlich kennt—ist ungemein schwierig, aber aufregend; im Allgemeinen sind nur flüchtig angebrachte Schüsse möglich und dann kommt noch die grosse Frage, wie und ob man das Tierchen in die Hand bekommt. Ist es nur geflügelt, so ist es verloren, da es nach dem Inneren flüchtet, wo es zwar momentan wohlgeborgen ist, doch einem schmerzhaften Tode entgegengeht. Fällt das Tierchen hingegen gut getroffen herab und stürzt man nicht wie ein Besessener darauf los, so ist es von der aus den verletzten Stengeln fliessenden Milch vollgetropft und das lockere Gefieder so verklebt und beschmutzt, dass man wieder etwas Unbrauchbares in Händen hat. Oder man hat auf den Vogel geschossen, wenn er oben auf einem inneren Stengel sass, so kann man ihn aus diesem Gewirre nicht herausbekommen oder in den meisten Fällen überhaupt nicht sehen kann. Am besten ist er erhältlich, wenn er sich am Boden aufhält oder einen Moment auf einem äusseren Stengel verweilt. In diesen zwar nicht schönen, aber desto eigenartigeren Gebieten trifft man diese Sylvienart von der Küste bis zu einer Höhe von ca. 500 m. hinauf.

Dort ist auch das richtige Heim von *Lanius algeriensis koenigi* und stolz bewusst oder gebeugt, lang gestreckt, zum Abstreichen fertig, thront er auf dem höchsten Zweige der Wolfsmilch, seine blendend weisse Brust im Sonnenlichte leuchten lassend. Seine Brutstellen sind dann die verfilztesten Stellen der Wolfsmilch mit dem gleichsam mit ihr verwachsenen Strauche. So sieht man ihn besonders zur Paarungszeit dort häufig Auslug haltend.

Während zweier Herbste konnte ich hauptsächlich während der Steinhuhnjagd eine mir sehr auffallende Beobachtung an *Tinnunculus tinnunculus canariensis* machen. An den milden Oktober- und Novembertagen tritt hier eine fliegende Ameise häufig auf. Zu meinem Erstaunen machte dieser Falke oft zu fünf und mehr Jagd auf diese Insekten, indem er sie mit den Fängen im Fluge griff und dann ebenfalls im Fluge mit dem Schnabel aus denselben nahm und verzehrte. Ich beobachtete diese interessanten Ausführungen mit dem Glase oft stundenlang. Hierbei wechselten sie häufig die Fangplätze. Noch erstaunter war ich, als unter dieser Gesellschaft ein *Falco subbuteo* auftauchte (14. Nov. 1903), der sich mit derselben Aufgabe beschäftigte. Leider fehlte ich ihn einmal im Vorbeistreichen, doch hielt er sich noch einige Zeit hier auf und ich konnte noch oft dieses Treiben der beiden Falkenarten beobachten. Ein *Tinnunculus* ♀, das sich seit Jahren bei meinem Hause aufhielt und immer die dort gefangenen Mäuse abholte, musste ich abschiessen, da es sich anschickte, meine *Fringilla teydea* aus dem Käfige zu holen und einen sogar schon verletzt hatte.

NEW SPHINGIDAE.

By THE HON. WALTER ROTHSCHILD, Ph.D.

1. Polyptychus murinus spec. nov.

♀. Body dark drab-grey *above*; a broadish mummy-brown mesial stripe from occiput to metanotum; sides of palpus and breast drab, middle of breast washed with pink; *underside* of abdomen dark drab-grey washed with ferruginous; upperside of foretibia and -tarsus dark drab-grey, the other legs dark drab, mid- and hindtibia with a rather large white spot at the base.

Wings, *upperside*.——Forewing like body, a brown-black spot at base of cell preceded by a vestigial costal dot; an antemedian band of three undulate chestnut lines curving costad, the first feeble in middle, ending in a dot behind, the interspace between the second and third washed with chestnut; a broad discal band of six or seven lines just outside cell, curving costad, the lines chestnut posteriorly with buffish hazel interspaces, the proximal lines to a greater extent than the distal ones, the latter replaced by a drab shade between R^1 and M^1, the band becoming blackish olive in front, where it measures 7 mm. in width; the drab-grey median interspace is widest at apex of cell (7½ mm.) and narrowest at hinder margin (2½ mm.); a pale ochraceous stigma bordered with dark brown: a series of minute blackish brown dots on outer half of disc, the series evenly curved, ending with a dark brown shadowy costal blotch, outside which there is another more distinct spot, a blackish olive triangular shade at distal margin, narrowing behind, stopping in front at R^1; fringe blackish olive; distal margin straight, feebly concave, not at all sinuous.——Hindwing: Prout's brown, grey at extreme base; a deeper brown patch behind cell; submarginal area also deeper in tint than disc, a small elongate submarginal spot deep Prout's brown, with a faint second spot outside it.

Underside.——Forewing sepia-brown, costal area washed with ferruginous between cell and apex, a shadowy band from apical to hinder angle broccoli-brown, leaving the edge of the wing deep sepia; proximally of this band two rows of minute olive-black dots.——Hindwing: cell and disc ferruginous, costal margin narrowly and distal and abdominal margins broadly pale sepia colour; a faint sepia-brown line straight across wing at upper angle of cell and point of origin of M^2, another very indistinct line at lower angle of cell; brown distal marginal area limited by a faint zigzag line accentuated by minute vein-dots; distally of this line another faint line; distal margin slightly washed with ferruginous.

A triangular, acuminate, somewhat curved, non-dentate process at each side of vaginal cavity.

Length of forewing: 44 mm.

Hab. Kassai River, Congo Free State: 1 ♀.

Closely allied to *P. pygarga* and *affinis*, agreeing with the latter in the brown mesial vitta on head and thorax, and with the former in the vaginal cavity being armed at each side with a pointed process, which, however, is non-dentate in the new species. There are no white scales at the abdominal stigmata.

2. **Epistor bathus** spec. nov.

♂. Deeper brown than *gorgon* and *taedium*. Abdomen without the patches of woolly scaling found in those species. Forewing with the fold as narrow as in *E. taedium australis* (Revision p. 407); R^2 not much curved at base, D^3 about one-half of D^4, lower angle of cell obtuse. *Upperside:* a dark brown shadow along fold, continuous with a large triangular discal patch, which is much larger than in *gorgon*, extending to hinder angle of wing and gradually shading off in front; dark brown apical patch broader and shorter than in the allied species, cellule SC^4—SC^5 being wider than in the other species; pale halfmoon-shaped marginal band narrower than in the species mentioned, its pale proximal border-line continued along edge of wing to anal angle, the latter rather more produced than in the allied species; five or six dark lines rather distinctly marked in the posterior area of the wing, reappearing at costal margin, second and third lines close together; distal margin angulate at M^1.——Hindwing less extended brown than in *gorgon*; distal margin feebly denticulate.

Underside with two lines on disc of each wing, those of forewing more or less indistinct, less curved than in *taedium*; the first of hindwing touching cell at lower angle, the second less marked, accentuated by vein-dots.

Sexual organs similar to those of *taedium*.

Hab. Huancabamba, east of Cerro de Pasco, Peru (Boettger), *type*; S. Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902 (G. Ockenden); Charuplaya, Bolivia, 1300 m., July 1901 (Simons); 3 ♂♂.

Also in coll. Charles Oberthür.

3. **Nephele discifera** f. **rattraya** nov.

♂. Hitherto only specimens of this species were known which have a large ochraceous spot in the middle of the hindmargin of the forewing. We have now received a specimen without that spot. This individual may represent the eastern race of *discifera*, but for the present we treat it as being an individual (not geographical) form of *discifera*.

Hab. Kampala, Uganda (Major H. B. Rattray); 1 ♂.

4. **Temnora albilinea** spec. nov.

♂ ♀. Body mummy-brown above, clayish tawny-olive beneath, palpus more creamy below.

Wings similar in shape to those of *T. fumosa*, broader; forewing less emarginate below apex; mummy-brown on *upperside*.——Forewing: two very faint brown bands in basal half and another beyond middle, separated from one another by faintly grey interspaces, the third band disappearing anteriorly in a brown discal area which is distally sharply limited by a gently curved white line, extending from subcostal fork to R^3, reaching this vein about 3 mm. from margin; outside this line two faint brown lines converging with the white line behind; a brown double line from apex to R^1, irregular; a white marginal or submarginal cloud R^1—R^3. ——Hindwing without markings, slightly paler towards base.

Underside clayish tawny-olive.——Forewing mummy-brown from base to disc, except margins; a pair of faint undulate lines from costa to R^3 and a straight oblique line from costa near apex to R^3 brown.——Hindwing with three faint curved lines on disc.

Tenth abdominal segment similar to that of *T. fumosa*. Friction scales of clasper large, 5 or 6 ; harpe long, slender, tapering, strongly curved upwards, somewhat flexuose. Penis-sheath on right side with a narrow process which bears a few teeth at the apex, on left side with a large patch of minute teeth arranged in five or six unequal rows.

Length of forewing : 25 to 26 mm.

Hab. Pungo Andongo, Angola, end of June 1875 (A. v. Homeyer) ; a small series.

5. **Temnora elegans polia** subspec. nov.

♂. Body above and below and hindwing below grey, without a rufous tint ; forewing also more grey than in the northern subspecies, especially on the underside, where the wing is only obscurely washed with rufous from the base to beyond cell ; hindwing dark tawny-rufous, not at all so bright as in *elegans elegans*. Harpe longer and slenderer than in the northern subspecies (penis-sheath broken).

Hab. Pungo Andongo, Angola, July 1875 (A. v. Homeyer) ; 1 ♂.

6. **Temnora rattrayi** spec. nov.

♂ ♀. In shape and pattern intermediate between *zantus* and *atrofasciata* (Revision p. 576). Body raw umber colour above, with blackish brown mesial line on head and thorax, clayish buff beneath.

Wings, *upperside*.——Forewing : divided into a proximal and a distal area by a grey line which runs from costal margin just proximally of apex of cell to hinder angle, being evenly curved behind ; within proximal area a basal patch, proximally of base of M^2 a double line which curves costad in front, a similar double line one-third the way to outer margin, abbreviated in front, stopping at the grey transverse line, an ill-defined hinder-marginal blotch at emargination, all mummy-brown, interspaces more or less buffish, that between the two pairs of lines rather distinctly plumbaginous ; outside the grey transverse line a mummy-brown band which is 4 mm. wide at costal margin, gradually narrowing to M^1, more or less contiguous with two black dots, one situated before and the other behind M^1 ; these dots themselves not completely separated from a black marginal border which extends from hinder angle beyond M^1 ; the mummy-brown band evenly emarginate distally, bordered by a grey line, at the outside of which there is a mummy-brown line ; subapical area distally of this line pale clayish, with a row of indistinct black vein-dots ; apex and distal margin washed with mummy-brown ; this colour intensified outside the subcostal fork, forming a short oblique streak ; distal margin sinuate between SC^5 and R^2 and again before hinder angle, apex truncate, marginal teeth vestigial ; fringe mummy-brown at apices of veins.——Hindwing : mummy-brown, slightly clayish towards base and abdominal margin, a mummy-brown submarginal line becoming visible behind, separated from the edge of the wing by a short pale line.

Underside pale tawny-olive.——Forewing : dark mummy-brown from base to disc, except at edges ; traces of three or four lines on disc.——Hindwing : with four lines in outer half, curving costad, the first and last very feeble, the third accentuated by vein-dots.

♂. Tenth tergite slender, rounded at tip ; sternite boat-shaped ; process of harpe very slightly narrowed distally ; apical edge sharp, turned upwards, forming a transverse ridge ; penis-sheath obliquely truncate ; on the left side a long but low

ridge which bears two rows of teeth, the upper row being about as long as the sheath is wide, the more lateral row being shorter than the other.

Length of forewing : 37 to 40 mm.

Hab. Kampala, Uganda, *type*, one pair ; Entebbe, Uganda, November 1900, 1 ♂ ; collected by Major H. B. Rattray, in whose honour the species is named.

7. **Sphingonaepiopsis ansorgei** spec. nov.

♂. Body greyish salmon-buff, mottled with cinnamon-rufous at the bases of the abdominal segments. Longest pectinations of antenna about three times as long as they are broad in middle.

Wings, *upperside*.——Forewing : not irregular at distal margin, very feebly emarginate between the posterior veins, straight at costal margin in middle ; apex a little less than 90° ; a grey basal area, wider at costal than at hinder margin, limited by a cinnamon-rufous band of several ill-defined lines, the inner line crossing M at base of M^1, the outer crossing subcostals at fork $SC^{4\text{-}5}$, the band mottled with black scales ; in middle of grey area a thin line of black and cinnamon-rufous scales ; a trace of another line near base ; outer half of wing pinkish grey, salmon-buff at hinder angle, a broad line of cinnamon-rufous and black scales nearly parallel to distal margin, about halfway between margin and subcostal fork.——Hindwing : salmon-buff ; distal edge brownish.

Underside rufous salmon irrorated with brown scales.——Forewing less bright than hindwing, shaded with clay-colour ; a small white stigma on both wings ; a broad brown distal marginal band to forewing ; edge of hindwing also brown ; M^1 of hindwing midway between M^2 and R^3.

Tenth tergite long, spatulate, sinuate at apex ; tenth sternite triangular, black like the tergite, acuminate. Harpe consisting of a heavy, tapering, pointed process which is proximally tricarinate, the upper carina or ridge being almost detached from the process ; penis-sheath with a broad spatulate apical lobe which is curved laterad.

Length of forewing : 15 mm.

Hab. Mikenga, Angola, September 14, 1903 (Dr. Ansorge) ; 1 ♂.

8. **Macroglossum augarra** spec. nov.

♀. Allied to *M. passalus* (Revision p. 664). Upperside of head and thorax slaty grey, a deep black mesial stripe from palpi to metanotum ; a black lateral stripe occupying mesothoracic tegula and extending forward to near tip of palpus ; end-segment of antenna very long and thin ; abdomen with deep chrome spot on segments 3 and 4, small white lateral tufts on segments 2 and 3, a larger chrome and white one on 4, tuft of 5 again larger, chrome, feebly tipped with white, tuft of 6 blackish chestnut, nearly black above, of 7 fulvous distally, tipped with white ; a pair of black dorsal patches on tergites 2 to 5, a black belt on 6, and a large black mesial spot on 7 ; tail black above, faintly chestnut, mummy-brown beneath ; palpus white beneath, irrorated with brown, a white line at eye on first segment ; breast walnut-brown, paler in middle, abdominal sternites reddish chestnut.

Wings, *upperside*.——Forewing : basal area blackish slaty grey, darker than thorax, limited by a straight deep black band which widens basad at hindmargin of wing ; outside this band a purplish grey band which is wider than the black one and includes close to its distal edge a black line ; then follows a somewhat shadowy black discal band, which is ill-defined and is produced distad behind R^1 ; halfway

between base and apex of R^1 a black line extending from costal to hinder margin, an indistinct oblique line from apex of wing to R^2 and then curved to margin also black ; interspaces in outer half of wing partly chestnut.——Hindwing : black ; a narrow, nearly straight, deep chrome band produced basad at abdominal margin.

Underside deep chocolate, extreme base of forewing, base and abdominal area of hindwing deep chrome ; forewing from base to middle of disc and an outer marginal band to both wings deeper in tone than rest of underside ; hindwing with three lines, the second indistinct, the first, which stands just outside cell, very distinct.

Length of forewing : 29 mm.

Hab. Owgarra, north of head of Aroa River, British New Guinea (A. S. Meek and Eichhorn) ; 1 ♀.

9. **Xylophanes ockendeni** spec. nov.

♂. Body green *above*, a lateral stripe on head and pronotum clayish, pale pink at base of antenna and behind eye, a short mesial stripe on mesonotum pinkish clay (discoloured ?) ; palpi (except apex), breast and sides of abdomen reddish ferruginous, abdominal sternites pinkish ; external spur of midtibia a little shorter than inner.

Wings, *upperside*.——Forewing green like thorax, rather shorter than in *rothschildi*, with three black patches of 3 to 5 mm. diameter, one subbasal, the second just beyond apex of cell, and the third at hinder margin proximally of angle ; a small black stigma ; a thin black line from outerside of subbasal patch to costal edge, curved, irregular ; an indistinct bar in middle of cell blackish green ; a faint dentate line just distally of second patch followed by another indistinct line, both deep green ; a more prominent somewhat crenate green line from hinder margin beyond middle to costal margin, crossing R^3 midway between cell and distal margin, curved costad in front, ending in a small black costal dot, the line bordered distally by a green shadowy band which ends at the apex of the wing, the line curving away from it near costal margin ; a vestigial crenate green submarginal line faintly accentuated on the veins by some tiny dots ; a series of rather prominent marginal dots standing at the ends of the veins.——Hindwing : brownish black, somewhat pinkish buff posteriorly, an ill-defined pinkish band on disc ending posteriorly in a clayish patch, distal edge bordered with green ; fringe pale, a black dot at the end of each vein.

Underside reddish ferruginous, irrorated with black ; both wings with green dentate distal marginal band which is irrorated with black scales, the band of the forewing being rather wider than in *rothschildi*.——Forewing : brown-black from base to middle, a slightly S-shaped blackish line on disc crossing R^2 at about one-third the way from the cell to the outer margin ; between this line and apex of wing two short costal lines which end at the green distal marginal border.——Hindwing with a discal blackish line as on forewing.

Tenth tergite truncate-sinnate, sternite triangular, acuminate, but not acute ; clasper with about six friction-scales arranged in two rows ; harpe somewhat similar to that of *X. resta*, convex on the side away from clasper ; penis-sheath with a dentate lobe on the right side and a dentate ridge on the left, the ridge being much more proximal than the lobe.

Hab. Santo Domingo, Carabaya, S.E. Peru, October 1902, dry season (G. Ockenden) ; 1 ♂.

In the same collection there came also a ♂ of *X. rothschildi*, this being the second specimen known.

10. **Xylophanes rhodotus** spec. nov.

♂. Closely allied to *X. eumedon*. Pale mesial band of thorax broader, divided by a broad olive-green mesial line ; grey vitta of abdomen also broader, with a faint olive-green mesial line, which becomes broad and distinct on the basal segment ; black basal lateral patch more prominent ; yellowish lateral longitudinal band following this patch much less marked than in *eumedon*.

Wings shorter, less elongate, less acuminate.——*Upperside :* forewing with a dark cloud distally of black stigma ; apex of wing less extended pale than in *eumedon*, and the pale band which extends from the apex to the inner margin narrower, continued to base ; proximally of this interstitial band three olive-green lines, the first the heaviest, but much less heavy than in *eumedon*, and not so pointed distally, the second and third partly fused distally, with the interspace not paler than the interspace between the first and second line, the third line broader behind than between the median nervules ; the heavy olive-green line beyond the pale interspace less curved than in *eumedon*, owing to the less produced apex of the wing.——Hindwing : the five anterior spots of the band completely separate.

Underside : forewing with a black patch beyond cross-veins, followed by a rather indistinct line instead of the prominent line found in *eumedon* ; interspace between this line and the next wider than in *eumedon*, and the black dots distally of the second line more prominent on both wings.——Hindwing : the two discal lines more transverse and more S-shaped.

Hab. Santo Domingo, Carabaya, Peru, June, July and November 1902 (G. Ockenden) ; 4 ♂♂.

Also in coll. Charles Oberthür, from Peru.

11. **Theretra polistratus** spec. nov.

♂. Allied to *T. rhesus* (Revision p. 766). Grey dorsal stripe of thorax and abdomen separated into two sharply marked lines from mesonotum to apex of abdomen ; mesothoracical tegnla with a sharply defined grey line near upper edge ; a strongly marked dorso-lateral line from metanotum to apex of abdomen ; a broad lateral stripe on head and thorax also grey ; rest of upperside olive-green. Underside of breast and abdomen pinkish, irrorated with olive-green ; sides of breast more extended green, the green scaling forming two rather indistinct stripes in middle.

Wings, *upperside*.——Forewing with pinkish grey costal edge ; black stigma very distinct ; olive-green lines as in *rhesus*, but the interspaces more silvery grey, except the one outside the heavy line ending at apex of wing.——Hindwing mummy-brown, shaded with green at distal margin, clayish at abdominal margin ; a submarginal and a discal line brown, faint, with clayish interspace which fades away in front.

Underside of hindwing and middle of forewing pinkish like abdomen, irrorated with olive-green ; three lines on forewing, the first two approximate, two on hindwing, olive-green, the outer one accentuated by black vein-dots.

Hab. Dinawa, British New Guinea.

In coll. Bethune-Baker.

SOME NEW MOTHS.

BY KARL JORDAN, PH.D.

SYNTOMIDAE.

1. **Pseudapiconoma compsa** spec. nov.

♂. Body pale mummy-brown, a small spot at base of antenna, a thin border to prothoracic tegula, and two thin streaks on mesonotum tawny-ochraceous; a large dorso-lateral basal patch on abdomen, side of forecoxa, upperside of forefemur and hinder side of hindcoxa scarlet, abdominal tergites 4 to 7 and middle of 3, and the underside of abdomen creamy clay-colour; a series of small lateral tufts on abdomen orange.

Wings, *upperside*.——Forewing: pale mummy-brown; a minute reddish spot in centre of base, behind which there is a larger pale orange spot; a round nude spot before middle of SM^2 situated on this vein, appearing white on account of being scaled white beneath; the following transparent spaces: a square space at apex of cell, a series of 8 spaces from costal to inner margin, 1 and 2 small, 2 separated by a brown spot from a small additional space situated at base of SC^5—R^1, space 3 not reaching so far distad as 4, spaces 5 and 6 large, extending from cell to near distal margin, 7 about two-thirds their length, a small transparent dot behind base of M^2; vein SC^1 forming an areole with SC^2.——Hindwing: small, hairy, semitransparent, grey, blackish at the edges; vein R^2 from a point with R^3.

Underside paler than upper.

Length of forewing: 20 mm.

Hab. Pungo Andongo, Angola, April 26, 1875 (A. von Homeyer); 1 ♂.

2. **Pseudapiconoma gloriosa** spec. nov.

♀. Body black, glossy blue; a stripe on mesothoracic tegula and one on each side of mesonotum, a spot on each side of metanotum and another on first abdominal tergite, terminal belts of tergites 2 to 6, the anterior ones more or less interrupted and the others narrowed mesially, large lateral spots on the sternites, inner respectively posterior side of coxae, a minute lateral dot on prosternum and a thin line at frontal side of eye scarlet.

Wings, *upperside* blackish hair-brown, faintly shot with blue.——Forewing with two scarlet dots upon C at base, and seven transparent spots: one in cell near apex, another behind M^2 distally of base of this vein, square, five in a row from SC^4 to M^1, the first minute, the third the largest, being about as long as the cell is broad at apex.——Hindwing: with scarlet basal spot at hinder margin.

Underside like upper, fore- and hindwing with a basal spot of scarlet hairs behind.

SC^1 of forewing before apex of cell, anastomosing with C and connected with SC^3 by a bar; R^2 and R^3 of hindwing from a point.

Length of forewing: 32 mm.

Hab. Pungo Andongo, Angola, April 20, 1875 (A. von Homeyer); 1 ♀.

3. **Pseudapiconoma fenestrata** spec. nov.

♀. Body olive-black, hinder side of coxae scarlet; minute lateral dots at the abdominal stigmata yellow.

Wings, *above*, olive-black, with transparent spaces.——Forewing with nine such spaces: one in cell near apex, and eight in a row from costal to hinder margin, the first triangular, the second square, the third oblong, not quite so long as the olive-black space outside it, the fourth elongate-ovate, the fifth ovate, the sixth the largest, extending to cell, the seventh broader than long, constricted, the eighth small, a minute additional spot in front of base of R^1.—— Hindwing (rather abraded) with a continuous band of transparent patches from R^1 backwards, the first patch transverse, the others elongate, rounded distally.

SC^1 of forewing before apex of cell, anastomosing with SC^2 and then with C; R^2 and R^3 of hindwing from a point.

Length of forewing: 23 mm.

Hab. Pungo Andongo, Angola, April 26, 1875 (A. von Homeyer); 1 ♀, in which the upperside of the thorax and abdomen is much rubbed.

ARCTIIDAE.

4. **Phragmatobia ansorgei** spec. nov.

♀. Body yellow, thorax washed with red; antenna, interrupted basal belts on abdominal tergites and lateral spots on sternites, upperside of fore- and mid-tibiae and of all the tarsi (except apices of segments) black.

Wings orange-scarlet *above*, fading into orange at distal margin.——Forewing: a subbasal row of five small and faint black spots placed in yellow ones, the first spot more proximal than the others; a transverse spot on cross-veins also black, somewhat curved, and at the ends dilated; a trace of minute black submarginal dots.——Hindwing: with a row of black submarginal spots.

Underside yellow, cell of forewing and greater part of hindwing washed with red; no black markings, except a trace of the kidney-shaped spot on the forewing.

Length of forewing: 21 mm.

Hab. Bange Ngola, Angola, October 5, 1903 (Dr. W. J. Ansorge); 1 ♀.

5. **Clerckia securizonis guizonis** subspec. nov.

♀. Body as in *C. sec. securizonis* Butl.

Wings, *upperside*.——Forewing with red area somewhat similar to that of *sec. securizonis*, but not extended to apex of cell except between costal margin and stalk SC^{4+5}. R^1, where the area is produced distad for about 3 mm.; posterior portion of area orange; a black streak within this area along inner margin from base to beyond one-third of margin, narrow, about 1½ to 2 mm. wide; fringe greyish. Hindwing: abdominal margin not black; base with just a trace of black; black distal border narrower than in *sec. securizonis*, strongly tapering.

On the *underside* the orange and red area of the forewing is not quite so deeply excised as above.

Length of forewing: 16 to 18 mm.

Hab. Guizo I., Rubiana Lagoon, Solomon Is., November 1903 (A. S. Meek and Eichhorn); 2 ♀♀.

6. **Caprimima caerulescens mononis** subspec. nov.

♀. Close to *C. caer. caerulescens*. Yellow area of forewing twice as wide behind as in front, being at the costal margin as wide as the green-blue basal area; black distal marginal border narrower at apex than in *caer. caerulescens*; yellow area of hindwing triangular, wider in front than in *caer. caerulescens*, but shorter, the black border of the wing being rather broader at anal angle than in average specimens of *caer. caerulescens*.

Hab. Treasury Island, July 1901 (A. S. Meek and Eichhorn); 5 ♀♀.

It is worthy of note that this form agrees much better with the form from Guadalcanar than with the subspecies occurring on the interjacent islands.

7. **Byrsia amoena guizonis** subspec. nov.

♀. Wings deeper orange and the blue proximal border of the orange-red subapical patch on the upperside of the forewing wider than in *B. a. amoena* from Isabel, the black border to the hindwing also much broader at the distal margin as well as at the abdominal margin, the distal marginal border being about 2 mm. wide in front and 1 mm. behind, apart from fringe.

Hab. Guizo Island, Rubiana Lagoon, November 1903 (A. S. Meek and Eichhorn); 1 ♀.

8. **Caprimima choiseuli** spec. nov.

♀. Similar to *C. caerulescens*, a little smaller. Upperside of head and thorax metallic bluish green, more strongly glossy than in the forms of *caerulescens*. Foretibia and apex of hindtibia more or less suffused with white, first foretarsal segment not white.

Wings, *upperside*, similar in colour to those of *C. caerulescens isabella*, which occurs also on Choiseul; metallic base of forewing more extended than in *caer. isabella*, but less than in *caer. caerulescens*, yellow area triangular, almost narrowed to a point costally, but occupying about half the posterior margin, red-orange patch correspondingly extended; metallic proximal border-line of this patch thin, hardly widened at costal edge; bluish black distal marginal border of nearly even width, wider than in *caerulescens*.——Hindwing as in *C. caer. isabella*, but narrower.

Hab. Choiseul I., Solomon Is., December 1903 and January 1904 (A. S. Meek and Eichhorn); 4 ♀♀.

Both this species and *C. caer. isabella* were found on the north side as well as on the south side of the island.

AGARISTIDAE.

9. **Xanthospilopteryx catori** spec. nov.

♀. Body black, head, thorax, legs and underside of abdomen with white spots; upperside of abdomen with yellow apical belts, which become more or less white laterally and on segment 6 also apically.

Wings, *upperside*.——Forewing: orange markings merged together, occupying four-fifths of the wing; a large orange one from close to base to apex of cell,

triangular, widest at SM^2, not reaching costal and abdominal edges, which remain black, and including a small oblique bar in the cell followed behind cell by a small spot, both with plumbeous scales, the orange area narrowly joined in front and more broadly before M^2 to a straight orange discal band extending obliquely from near costal edge to a little beyond M^2; an orange spot before hinder angle; fringe spotted with white; a small white basal subcostal dot; plumbeous scales on cross-veins.——Hindwing orange-red, with narrow black distal border, which becomes gradually narrower behind; fringe spotted with white.

Underside similar to upper; plumbeous scales absent; forewing paler orange, discal band separate behind from basi-discal area, no orange spot before hinder angle.

Length of forewing: 30 mm.

Hab. Moyamba, Sierra Leone (D. Cator); 1 ♀.

Resembling the ♀ of *X. poggei*.

10. **Burgena splendida pectoralis** subspec. nov.

♂ ♀. Differs from *spl. splendida* in the sterna and coxae being black, except the hinder side of the forecoxa, which is yellow. The first segment of the palpus is black or bears only a few white scales.

This form is on the whole somewhat smaller than *spl. splendida*.

Hab. Solomons: Isabel, June and July 1901, *type*; Choiseul, December 1903 and January 1904; Florida, January 1901.

A long series collected by Messrs. A. S. Meek and Eichhorn.

11. **Pseudospiris jucunda** spec. nov.

♂. In structure somewhat intermediate between *Pseudospiris* and *Paida*. Frontal cone large, its upper apical edge more projecting than the lower edge. Anterior margin of frons not raised to a ridge. Anterior tibiae longer than first tarsal segment, the thorn at its apex short and obtuse. Tooth of claw nearer apex than in *P. paidiformis* (1895) Butl. Abdomen much less tufted and the hairs of the hindwing (♂) much shorter than in *P. paidiformis*. Forewing broader, SC^1 and SC^2 before apex of cell, areole rather large, SC^5 from apex of areole, R^1 from cell, not stalked with the subcostals, R^2 and R^3 separate, M^1 from close to angle of cell, M^2 also more distal than in *paidiformis*; hindwing a little broader than in that species, stalk of C and SC^2 much shorter, R^1 and R^2 from a point.

In colour resembling *paidiformis*. Abdomen with a black dorsal mesial line from segment 3 to 6.——Wings, *upperside*; forewing: discal line S-shaped as in *Paida pulchra*, but not produced into a tooth before R^2, being much more regularly curved; the veins in the proximal area of the wing streaked with black or ferruginous, subbasal ferruginous patch not extending forward beyond M, the black or ferruginous line distally of it more proximal at costal edge than in *paidiformis*, the two antemedian annuli separate, smaller, filled in with silvery scales, some dots on (SM^1) proximally of second antemedian ring, similar dots centred with silvery scaling on M, one in angle M—M^2 a distinct annulus, silvery spot on cross-veins narrower and more regularly kidney-shaped than in *paidiformis*; vein-streaks in distal area black, but often shading into ferruginous proximally.——Hindwing ferruginous; distal edge very thinly black; a series of small submarginal pale

yellow spots ; fringe pale yellow, the shorter scales black ; lunule on cross-veins deep ferruginous.

Underside ferruginous, the markings of the upperside here vestigial, the rings filled in with ferruginous : forewing with short admarginal pale buff streaks or spots on the veins ; hindwing with similar but smaller spots.

Length of forewing : 21 to 25 mm.

Hab. North Bailundu, Angola, September 1901 (Pemberton), *type* ; Bihé, Angola, October 1901 (Pemberton) ; 8 ♂♂.

12. **Pais ansorgei** spec. nov.

♂. Body yellowish buff, frontal process, a spot at insertion of antenna, third segment of palpus and upperside of second, bases of abdominal segments, upperside of fore- and midtibiae, of foretarsus and of first midtarsal segment black, upperside of thorax also black, four spots on pronotum and three streaks on mesonotum pale buff.

Wings pale rufous buff *above*, submarginal spots somewhat ochraceous buff.—— Forewing : costal margin and vein SM^2 streaked with black, a pale buff costal dot at base ; a black bar centred with plumbeous situated beyond middle of cell produced distad upon M, an 8-shaped black bar upon cross-veins, centred with plumbeous and white ; a black discal line almost parallel to distal margin, gently curved, feebly angulate at R^2, extending from costal to hinder margin ; outside this line, separated from it by a narrow interspace, a line of plumbeous dots, more or less confluent, placed upon black scaling ; veins black from this line to black distal edge ; hinder margin thinly edged with black.——Hindwing slightly paler than forewing, feebly washed with black at base ; a small but prominent black stigma ; a black postdiscal line following the curve of the wing, but gradually approaching the distal edge behind, veins black between this line and black distal edge, posterior interspace almost filled up with black ; fringe creamy buff.

Underside paler than upper, forewing paler than hindwing.—Forewing : black bar in cell and on cross-veins as above, but smaller and without metallic centres ; black discal line thinner than above, not followed by a plumbeous line, black vein-streaks thinner, extending to the discal line.——Hindwing as above, but posterior submarginal interspace less extended black.

Length of forewing : 23 mm.

Hab. Bula Matenga, September 19, 1903 (Dr. Ansorge) ; 1 ♂.

13. **Tuerta thomensis** spec. nov.

♀. Head and thorax above purplish chestnut, some scales at base of antenna dirty white, tip of a lateral tuft on metanotum plumbeous, abdomen dark wood-brown ; underside of first segment of palpus, tip of second and extreme base of third, woolly hairs of breast, coxae and femora, innerside of tibiae, tips of tarsal segments, and bases of abdominal sternites dirty white, spurs of tibiae buff ; fine hairs of antenna a little longer than in *T. trimeni* and allies.

Wings, *upperside*.——Forewing purplish chestnut like thorax, somewhat glossy ; a dot in cell, a spot on cross-veins, divided by these veins into two bars, an oblique subbasal streak behind cell, connected by a more or less distinct streak with a discal line, which starts near costal edge a little nearer cell than apex, running

obliquely distad to M^1, curving basad behind M^1 to near cell, and then turning towards abdominal margin, which it reaches at distal fourth ; outside the upper part of this line there is a triangular band, and outside the hinder part of the line, within the loop, a patch ; all these markings dull green, not prominent, bordered with chestnut.——Hindwing dark mummy-brown ; a pale orange basi-discal area, rounded distally, shaded with brown behind, the veins traversing it more or less brown ; distal border 6 mm. broad at R^3, of nearly even width ; edge of wing feebly scalloped ; fringe white at apical and anal angles.

Underside similar to that of the orange form of *T. tricolor halans* (1895) Karsch, but the black dot in the cell of the forewing smaller. The white band of the forewing vestigial in one of the two ♀♀ (*type*), being shaded over with brown.

♂. Similar to ♀, orange area of hindwing paler (faded ?).

Length of forewing : ♂, 18 mm. ; ♀, 21 mm.

Hab. St. Thomé, Bight of Benin, December 1899 to January 1900 (A. Mocquerys).

Two ♀♀ and one worn ♂.

The description of the neuration of *Tuerta* in Hampson, *Lep. Phal.* iii. p. 622 (1901), is not correct in so far as " vein 7 " often comes from the areole, the position of that vein being individually variable.

Figures 254 and 255 of the same work have become transposed, the former representing *Pseudospiris paidiformis* and the latter *Paida pulchra*.

14. **Argyrolepidia aequalis capiens** subspec. nov.

♂. Similar to *A. aeq. aequalis* ; the second white patch of the hindwing vestigial (*type*), or, if well marked, just touching the first patch, the blue scaling on the underside of the hindwing at the base much more reduced than in *aeq. aequalis*.

♀. The two patches of the hindwing confluent, as in *aeq. salomonis*, but the second patch much smaller than in that subspecies. Differs from *aeq. aequalis* ♀ in the more prominent blue markings on the upperside of the forewing, the more reduced blue basal area on the underside of the hindwing, and in the white patches of the hindwing being confluent and the second patch being hardly half the size of the first.

Hab. Treasury Island, Solomon Is., July 1901 (A. S. Meek and Eichhorn) ; a series.

The reduction of the second white patch of the hindwing is very remarkable, considering that in the subspecies from Choiseul the two patches are so much enlarged as to occupy, in the ♀, the greater part of the wing.

15. **Argyrolepidia aequalis integra** subsp. nov.

♂. Similar to the ♀ of *A. aeq. salomonis* (from Guadalcanar) ; the white spot in the cell of the forewing larger, the white discal band slightly wider and somewhat curved. The two white patches of the hindwing larger and completely merged together to one large patch which is very feebly excised at M^2.

♀. White discal band of forewing elongate-elliptical, 5 mm. broad at R^3.—— Hindwing with a very large white central area showing no indication of a separation into two patches, almost evenly rounded distally ; black distal marginal border 5 mm. broad at SC^2 and 4 mm. at M^2 inclusive of fringe. On the *underside* the white area

of the hindwing is preceded by a bluish white patch C—SC^2, the area extending also on the *upperside* beyond SC^2.

Hab. Choiseul, Solomon Is., December 1903 (A. S. Meek & Eichhorn); a series.

CHALCOSIIDAE.

16. **Heterusia semiflava** spec. nov.

♂. Body black, with a strong greenish blue metallic gloss on thorax and legs; abdomen pale straw-yellow beneath.

Wings, black above and beneath, with a subapical spot of metallic blue scales on forewing above and beneath, and on hindwing beneath.——Forewing orange *above* from base (extreme base metallic blue) to beyond apex of cell, the orange area slightly rounded distally, its edge crossing SM^2 about 2 mm. from edge of wing; this area paler beneath and densely shaded with black behind cell from base to halfway to outer margin of wing.——Hindwing: a submarginal orange band narrowing in front and behind, connected on *upperside* with base by means of a pale sulphur-yellow costal streak, the band not extending beyond SM^2.

Neuration: SC^2 of forewing shortly anastomosing with C, stalk of SC^3 and SC^4 very short.

Length of forewing: 21 mm.

Hab. Upper Aroa River, British New Guinea, March 1903 (A. S. Meek); 1 ♂.

PYRALIDAE.

17. **Sindris magnifica** spec. nov.

♀. Antenna, palpus, head at base of antenna, a line behind eye, legs and underside of abdomen black, rest of head buff, upperside of thorax and abdomen and greater part of hindtibia orange-yellow, base of tarsi buffish.

Wings, *upperside*, with black fringe and thin black distal border.——Forewing: carmine, orange-yellow along hinder margin, this colour extending costad distally, gradually fading away.——Hindwing orange-yellow.

Underside: orange-yellow, forewing washed with carmine at costal margin, especially distally; hindwing also with a faint carmine tone.

Length of forewing: 22 mm.

Hab. Pungo Andongo, Angola (A. von Homeyer); 2 ♀♀.

SOME NEW COLEOPTERA COLLECTED BY REV. HENRI A. JUNOD AT SHILOUVANE, NEAR LEYDSDORP, IN THE TRANSVAAL.

By L. PÉRINGUEY, SOUTH AFRICAN MUSEUM.

CICINDELIDAE.

1. **Dromica (Cosmema) concinna** spec. nov.

♂ ♀. Very dark blue, occasionally blue-black on the upperside, but with the sides of the head, prothorax, elytra, the whole underside, and the legs bright dark blue; the knees and the greater part of the anterior tibiae are rufescent, and the first four basal segments of the filiform antennae greenish. The yellowish white labrum has a basal transverse infuscate band and a narrow apical margin of the same colour in the *male*, and also occasionally in the *female*; but the latter has normally a broad longitudinal fuscous band reaching from base to apex. The head and neck are finely plicate. The narrow prothorax is nearly cylindrical, one-third longer than broad at its widest part in both sexes, strongly constricted at each end, convex, finely and closely plicate, and with a fine impressed longitudinal median line. Elytra of *male* elongated and not much ampliated past the middle where they are twice as broad as at the base; whereas in the *female* they are twice as broad there, briefly angular at the sutural angle, and more strongly so at the outer in the *male*, while in the *female* these two angles are slightly less acute than in the *male*; the anterior part of the elytra is covered with somewhat deep round punctures, separated in both sexes by a nearly smooth interval almost equal in width to their diameter. These punctures grow gradually shallower and smaller from the median part to the apex; the *female* only has a small narrow depression along the suture near the base, and both sexes have on each side a supra-marginal median elongated patch, and a longer one at a short distance from the apex.

Length, 13 to 15 mm.; width, 3 to 4¼ mm.*

This species belongs to the same group as *D.* (*Cosmema*) *transitoria* Pér., with a long narrow cylindrical neck; the punctures of the elytra, especially on the anterior part, are not rugose even in the *male*.

2. **Dromica (Cosmema) specialis** spec. nov.

♂. Black, shining on the upperside, sides of head, thorax, margin of elytra, and underside dark cyaneous blue, legs bluish green, base of tibiae rufescent. Antennae with the fifth and sixth segments narrowly dilated, seventh and eighth very little ampliated. Labrum whitish, with the base broadly and the anterior

* This species was discovered by me in the Low Country of Pietersburg, not far from Leydsdorp, near the Swiss Mission Station of Shilouvane, which is about 2000 ft. above the sea-level, on the lower slopes of the Drakensberg Mountains. It is living in company with *C. sexmaculata*, but is much rarer.—Henri A. Junod.

margin narrowly infuscate. Head and neck deeply plicate. Prothorax narrow, constricted at each end, but more deeply so in front, where it is also wider than at the base, and not bulging laterally in the middle, deeply plicate transversely, and with a slightly impressed longitudinal line uniting the two constricted transverse parts ; the discoidal part is not depressed. Elytra narrow, elongated, sinuate laterally above the intermediate coxae, and slightly elongate-ampliate thence towards the apical part, where they are produced into two long divaricating spines, the outer apical angle being noticeable, but very short ; at their widest part the elytra are nearly three times as wide as at the very narrow basal part : the suture is sharply raised, but there is only a faint trace of an elongated impression alongside of it in the anterior part ; the whole surface is covered with a network of deep irregularly arranged foveae, separated by a very narrow sharp wall, as broad and as deep in the posterior as in the anterior parts, and reflecting a bronze or dark coppery sheen ; in the widest part of each elytrum there is an irregularly quadrate yellowish patch, and a supra-marginal band of the same colour, beginning close to, but underneath, the dorsal patch and reaching the apical outer angle.

Length (spin. excl.), 12 mm. ; width, 3 mm.

Dr. W. Horn informs me that this species is identical with the example in the British Museum which I mentioned in my description of *M. foveolata* Pér. (*Descr. Cat. Col. S. Afric., Cicindel.* 1893. p. 64) as differing somewhat from the type of the latter, and to which it seems I fixed a label bearing the name of *D. specialis*. I may also mention that, according to Horn, who has seen the types of both, *Myrmecoptera foveolata* Pér. is the same species as *M. granulata* Dokth., and this latter name must therefore prevail.

TENEBRIONIDAE.

OPATRINAE.

3. **Anomalipus spectandus** spec. nov.

♂. Black, covered with an earthy substance in the cavities. Head of the normal shape. Prothorax much depressed, very broadly rotundate-ampliate laterally, and narrower and also straighter in the posterior part towards the straight basal angle ; it is covered with foveae, and has on the centre of the disc four smooth aerolets inclosing four more or less distinct impressions. Elytra nearly parallel, only slightly wider across the posterior declivity than at about two centimetres from the shoulders, which are slightly diagonally narrowed, a little more convex towards the median part than most of the species of this group, and having on each side three rows of small tubercles, closely set, but coalescing only on the first row, near the base ; the suture is more closely tuberculated, and the outer margin sharp and slightly impressed transversely at equidistant intervals. Anterior tibia not serrate inwardly, strongly bidentate outwardly ; the apical part is simple, but there is a strong vertical tooth underneath the two inner apical spurs.

Length, 25 mm. ; width, 11 mm.

Allied to *A. sculpturatus* Pér. ; the elytra are, however, a little more convex in the dorsal part at about the median part, and the costules, instead of being round and smooth, consist of rows of small, closely-set tubercles.

4. **Anomalipus deceptor** spec. nov.

♂ ♀. Black, covered with a terrenous substance. Head of the normal shape, but very little impressed. Prothorax much depressed, broadly ampliated, and rounded laterally, but very plainly narrowed in the posterior part, the angles of which are long and project above the base of the elytra. The latter are parallel, yet slightly wider across the posterior declivity, somewhat short, plane in the anterior part, and also on each side of the posterior declivity the median part of which is raised, closely and finely granular, with the granules irregularly scattered; the suture and two costae on each side of it are very plainly raised, and are granulose, and there are faint traces of an intermediate row of granules in the first and second intervals, while the lateral costae or costules are obliterated —that is to say, the granules do not form there distinct costules, except in the apical part, where the third costa can be recognised.

Length, 19 mm.; width, 9 mm.

Not unlike *A. granocostatus* Fairm., but narrower, and with the prothorax, and also the hind part of the elytra, much less ampliated; the costae are also much less conspicuous, and the anterior tibia of the *male* has a short vertical tooth under the apical part, as in *A. planus* Fahrs., but shorter and thicker; this tooth or spine is wanting in *A. granocostatus*.

5. **Anomalipus amplipennis** spec. nov.

♀. Black, opaque. Head roughly punctate. Prothorax broadly ampliated laterally, and very little sinuated above the basal angle, which does not project much; the base is deeply sinuated near the angle; the surface is covered with round foveolate punctures, separated by a narrow interval; there are four plain impressions disposed in a transverse row at about the median part of the disc, and two elongate ones near the base, each one equidistant from the centre and the outer margin. The elytra are broader at the base than the base of the prothorax the angle of which is in a line with the sixth elytral costa, strongly convex from a third of the length, one-fourth wider past the median part than across the base, plainly sex-costate on each side; the costae are partly smooth and partly granular, and the intervals are finely granulose.

Length, 19 mm.; width, 12 mm.

This species is remarkable, owing to the ampliated shape of the elytra, which project also more horizontally at the base beyond the angle of the prothorax than in any other *female* of the genus.

6. **Anomalipus selatinus** spec. nov.

♂. Black, subopaque. Head with the normal shape and sculpture. Strongly depressed on both the prothorax and elytra. The former is widely rotundate-ampliate, not much narrowed towards the basal angles, which are well developed, with the base only slightly sinuate, covered with nearly contiguous small round punctures; in the central part of the disc are four impressions transversely disposed, and a deeper longitudinal arcuate one, broader than the discoidal ones, and extending from near the median part to the base; the four discoidal impressions consist of two foveae connected together, and none of them is surrounded or indicated by a smooth areolet. Elytra parallel, only very slightly

wider at the top of the hind declivity than at the base, plainly tricostate on each side, with the suture also raised as high as the dorsal costae, but the outer margin, although nearly equally high, is sharper; the intervals have no traces of costules, and are finely granular; anterior tibia strongly bidentate outwardly, simple at apex, without any apical vertical process underneath, and not serrate inwardly.

Length, 26 mm.; width, 12½ mm.

Allied to *A. sculpturatus* Pér. and to *A. asidioides* Oertz. It differs from the former in the absence of a vertical process underneath the apex of the anterior tibiae, and from the latter, the anterior tibia of which has the same shape, in the sculpture of the prothorax.

A NEW AFRICAN *MELANITIS*.

By THE HON. WALTER ROTHSCHILD, Ph.D.

Melanitis ansorgei spec. nov.

♂. *Upperside* of wings purplish violet, blackish towards the apex of the forewing, without ocelli; a white subapical band on forewing extending from costal edge towards marginal projection of wing; fringe of forewing more or less dirty white from apex to middle, except at veins; hindwing (of ♂) with a grey elongate-ovate scent-organ in front of SM^2 just beyond middle, the patch covered by a fringe of long hairs projecting from SM^2 discal. Outline of wings somewhat similar to that of *libya*, but the distal margins more even, the posterior portion of the distal margin of the hindwing much more slanting, being almost parallel to the hinder margin of the forewing if this margin stands at right angles to the body.

Underside olive-bistre, irrorated with grey, the grey scaling forming patches, being densest on forewing at apex, across middle of cell, and posteriorly on disc, and on hindwing from near base to middle of cell, and along costal margin: a large anal area of hindwing extending as far as apex of cell washed with purple-grey; a series of vestigial submarginal ocelli on both wings; a small white stigma at apex of cell on fore- and hindwing, the stigma of the hindwing being the larger.

Length of forewing: 35 mm.

Hab. Aruwimi Forest, ten days' march from Fort Beni, Congo Free State, May 14, 1899 (Dr. Ansorge).

NEW FORMS OF BUTTERFLIES.

By THE HON. WALTER ROTHSCHILD, Ph.D.

1. **Salamis anacardii ansorgei** subsp. nov.

IN *Nov. Zool.* x. p. 523 (Dec. 1903) we said of *S. anacardii*: "We have not seen a specimen of *anacardii* from the Congo Free State northward to the Niger: the species does not seem to occur there." Though the sentence still holds good, nothing to the contrary having come to our knowledge, we now believe that on further search *anacardii* will be found in the districts mentioned. We base this opinion on the fact that Dr. J. W. Ansorge procured in Northern Angola quite a number of specimens of a form of *anacardii* which comes nearer in characters to the subspecies inhabiting North-West Africa (Sierra Leone, Gold Coast) than to the one occurring in South and East Africa as far north as Eritrea.

This new subspecies is easily distinguished from *S. a. nebulosa* by the less great extent of the black apical area of the forewing and the clasping organs, differing from *S. a. anacardii* in the following points:

♂. *Upperside* of wings much more glossy purple; basal area of both wings usually shaded with purple-grey, this colour limited on forewing by the antemedian line which crosses M at base of M^2.——Forewing: three discal bars $SC^{4,5}$—R^3 in a nearly straight line, the third bar distinct, the second less proximal than in *S. a. anacardii*, the bars about halfway between cell and black apical area: this area continued beyond R^2 by purplish grey scaling, which forms a kind of band in which the two black spots M^1—SM^2 are situated, the band curving distad behind and fusing with another purplish grey band extending along the black distal marginal border; black discal spot M^1—M^2 larger than the spot M^2—SM^2.—— Hindwing more extendedly shaded with purplish grey than in *S. a. anacardii*.

Underside as in *S. a. anacardii*, more purplish (or milky) white in the specimens with grey bases to the upperside than in the individuals with a purer white upper surface.

Claspers as in *S. a. anacardii*.

Length of forewing: 30 to 37 mm.

Hab. Canhoca, Angola, end of November and beginning of December 1903 (Dr. Ansorge).

A series.

2. **Apaturina erminea xanthocera** subsp. nov.

♂ ♀. Club of antenna bright tawny, this colour extending to near base on underside. Macular band of forewing white in both sexes. The blue areas of the upperside of the wings more restricted than in *erm. erminea*.

Hab. Gnadalcanar, Solomon Is., April 1901 (A. S. Meek & Eichhorn).

A series.

3. **Papilio bridgei togonis** subsp. nov.

♂. *Papilio bridgei tryoni*, Rothschild (*non* Mathew, 1889), *Nov. Zool.* ii. p. 310 (1895) (partim ; Isabel).

♂. Similar to *P. bridgei tryoni*.——Forewing, *above*, with a row of seven spots, generally with some additional white scaling behind SM^2, the first spot being small, occasionally absent, rarely preceded by a minute eighth spot.——Band of hindwing outside the cell, patches SC^2—M^1 decreasing in length, the upper three patches distally excised, the others more or less rounded distally, especially patch R^2—R^3, the nervures more or less extended black between the patches ; white marginal spots more prominent than in the only known ♂ specimen of *tryoni*. ——On the *underside* there is sometimes a white spot on the forewing between M^2 and SM^2.

♀. Forewing as in *tryoni*, but the marginal spots rather smaller above and larger below. The white central area of the hindwing less pure white than in *tryoni*, the upper three patches outside the cell rather shorter ; the submarginal spots, which are bright orange in *tryoni* above and below, white, more or less shaded with orange, especially proximally, the seventh spot of this row on the upperside the smallest of all, while in *tryoni* it is the largest both above and below.

Hab. Isabel, Solomon Is., June—July 1901 (A. S. Meek & Eichhorn).

A series.

4. **Papilio bridgei ortegae** subsp. nov.

♂. Wings, *upperside* : band of forewing intermediate between those of *bridgei hecataeus* and *bridgei togonis*, consisting of eight spots and an additional spot behind SM^2, spots R^2—M^1 smaller than spot M^1—M^2 and more proximal than spot R^1—R^2, being rather larger than in *hecataeus*, spot SC^3—SC^4 about half the size of spot R^2—R^3.——Band of hindwing as in *hecataeus*.

Underside : forewing with three small white subapical spots SC^3—R^1 ; submarginal spots of hindwing smaller and less shaded with orange than in *hecataeus*.

♀. Wings, *upperside* : forewing with larger cell-patch than in *hecataeus*, white discal spot SC^3—SC^4 less pure in colour, patch R^2—R^3 larger.——On the *underside* these spots are also larger, and the marginal spots R^1—M^2 are nailhead-shaped, being more or less completely merged together with an admarginal spot each.

Hab. Florida Island, Solomon Is., January 1901 (A. S. Meek & Eichhorn).

Two pairs.

This form connects *hecataeus* with *togonis*, and the latter leads over to *bridgei*, while extreme individuals of *hecataeus* come near *prospero*. These insects, inclusive of *togonis*, are geographical varieties of one species (of which the oldest name is *bridgei*).

5. **Delias schoenbergi choiseuli** subsp. nov.

♂. Differs from the two other subspecies of *schoenbergi* especially on the *underside*, coming nearest to *sch. isabellae*. The black area of the forewing below as much restricted as in *isabellae*, but less shaded with white at M^2; the basi-discal area more extended yellow.——On the hindwing the red submarginal patches are

larger and deeper red, and have only a trace of a yellowish white border here and there, the black area in which they are situated more sharply defined.

♀. *Upperside* less yellowish than in *isabellae*; the black discal area of the forewing larger and more sharply defined, that of the hindwing being also more extended and more prominent, reaching from C to M^2 or beyond; the submarginal patches of the hindwing of about the same size as in *isabellae*, *i.e.* smaller than in *schoenbergi*, the fifth separated from the yellowish grey basi-discal area, the sixth also more or less distinct.——On the *underside*, the forewing is similar to that of *isabellae*, but the hindwing presents the same differences as the ♂ in the red patches and the black area.

Hab. Choiseul, Solomon Is., December 1903 (A. S. Meek & Eichhorn).

A series.

6. **Delias alberti** spec. nov.

♂. *Upperside*, forewing: a subapical row of four white patches separated from the disc by a blackish shadowy band which is accentuated by black vein-streaks, a fifth spot not isolated; the black apical and distal border sharply dentate upon the veins, very thin between M^1 and M^2, disappearing behind M^2.——Hindwing: black marginal border about 2 mm. wide between the veins, dentate upon the veins; a series of submarginal patches tinged slightly with red, separated from one another, but merged together with the basi-discal area, except the second and third patches, which are more or less bordered with black scaling proximally.

Underside: forewing white; costal margin black, continuous with an obliquely transverse band which crosses the wing beyond the apex of the cell, isolating a row of five white submarginal patches.——Hindwing: yellow from base to disc, this area excised between SC^2 and R^3, where the disc is white, the yellow area more or less bordered with white also between R^3 and SM^2; six orange submarginal patches, partly bordered with white, especially the second, and followed by a double seventh spot which is smaller and white tinged with orange; proximally of these patches a black band of nearly even width extending from the costal to near the abdominal margin, somewhat lunulate between R^3 and SM^2, curved basad at SC^2 and produced basad behind this vein, the projection being more or less vestigial to base of wing; black margin thin, widest at the veins, measuring here about 2 mm.

♀. *Upperside* dull black, grey between the veins from base to apex of cell, the grey area extending more distad between cell and abdominal margin; a small white dot on cross-vein; a submarginal row of spots on each wing, the spots much smaller than in *D. schoenbergi*.

Underside.——Forewing: the black area more extended than in ♂, reaching to M^2, where it is about 6 mm. broad; basi-discal area yellow, shading into white posteriorly; subapical spots rather smaller than in ♂.——Hindwing: black band situated proximally of orange spots somewhat broader than in ♂, with very little white scaling between it and yellow basi-discal area; black discal margin wider than in ♂.

Hab. Choiseul, Solomon Is., December 1903 (A. S. Meek & Eichhorn).

A long series.

7. **Abisara segestes** spec. nov.

♂. Wings, *above*, mummy-brown.——Forewing shorter than in *segecia*, the distal margin more rounded; an ochraceous band of about 3 mm. width from R^1 to beyond M^2, situated just outside cell, shaded with mummy-brown at the edges and behind; a small white marginal dot at apex.——Hindwing similar in shape to that of *segecia* ♀, unicolorous, with white marginal spots between the veins.

Underside Prout's brown,[1] markings white, partly shaded with creamy buff.—— Forewing: a triangular spot before and a bar beyond middle of cell, an oblique discal band corresponding to the band of upperside, but broader and a little longer, three small subapical dots and four minute submarginal ones.——Hindwing: a large basal costal patch narrowest in front, widest behind, not quite extending across cell, produced distad in accordance with the shape of the cell, an elongate spot outside D^3, an oblique trapeziform patch near base from abdominal margin to near M^2, two discal bars M^2—SM^3, followed by a series of postdiscal spots, of which the last is longitudinal and the one before it transverse, a submarginal series of four bars, R^2—SM^2, and also four marginal streaks.

Length of forewing: 28 mm.

Hab. Dutch New Guinea, probably east of Geelvink Bay.

One ♂.

Distantly allied to *segecia* and *statira*. There was a ♂ of *A. satraps* in the same collection.

[1] Ridgway, *Nomencl. Colours* iii. 11.

MISCELLANEA ORNITHOLOGICA.

CRITICAL, NOMENCLATORIAL, AND OTHER NOTES, MOSTLY ON PALAEARCTIC BIRDS.

By ERNST HARTERT, Ph.D.

I.

DURING the progress of my work on the birds of the palaearctic fauna, I have come across various facts which seem to require longer explanations—too long to be embodied in a handbook. Some of them are criticisms and corrections of the "Catalogue of Birds." This does not, of course, mean that I despise that greatest of all ornithological works, but, on the contrary, that I consider it so important that every little error is worth pointing out, since that series of volumes is daily used by hundreds of ornithologists in all civilised countries.

1. CARPODACUS THURA and its subspecies.

In *Cat. B.* xii. pp. 425, 427, Dr. Sharpe has recognised two "species," *Carpodacus thura* and *C. dubius*, placing *C.* (*Propasser*) *blythi* as a synonym of the latter. There are, however, three subspecies, which may be distinguished as follows:—

♂. The rosy supercilium and rosy sides of the head separated by a very wide deep brown stripe, upperside deeper brown. ♀. Foreneck and chest rufous. *Hab.*: Himalayas from Nepal to Sikkim. *C. thura thura* Bp. & Schl.

♂. The rosy supercilium and rosy sides of the head separated by a narrow but still distinct deep brown stripe, upperside a little lighter brown. ♀. Foreneck and chest also rufous, but a little paler. *Hab.*: Gilgit, N. Cashmere. *C. thura blythi* Bidd.

♂. The rosy supercilium and sides of the head not at all separated, upperside paler brown. ♀. Whole underside whitish, not at all rufous. *Hab.*: Ala-shan, Kansu, and Setchuan. *C. thura dubius* Przew.

2. The proper name of HAEMATOSPIZA SIPAHI.

The bird at present known as *Haematospiza sipahi* should be called *Haematospiza indica* (Gm.). The names

Loxia indica Gmelin, *Syst. Nat.* i. p. 847 (1780—ex Seba, Brisson, Latham, *hab.* "India"), and

Loxia boetonensis Latham, *Ind. Orn.* p. 377 (1790—ex Seba, *hab.* "India insula Boetonense")

are not mentioned in the "Catalogue of Birds," nor elsewhere in recent ornithological nomenclature. The two names are based on Seba, who (i. pl. 60, fig. 4) figures an entirely red bird with the bill of *Haematospiza*. It is true that his bird has a long crest, but that crest is of such a peculiar shape, and so forced, that we may safely accept that it was a falsification. Seba gives as locality the island of Boeton (= Buton). As no such bird occurs in the Celebesian region, it is not very

hazardous to suppose that Buton was an error for Butan, the bird coming from the Himalayas, or that some other mistake had been made. Gmelin quotes Seba, Brisson, and Latham. Latham took his description only from Seba. Brisson says that Seba's figure is fairly correct ("satis accurata"). This may lead one to think that he knew the bird, but I am inclined to believe that Brisson too only took his knowledge from Seba, as he also describes the undoubtedly fictitious crest. It may be added that a mistake for the "Cardinal" is out of the question, as that bird was well known to both Seba and Brisson.

In the "Catalogue of Birds" *H. sipahi* is placed in the genus *Carpodacus*. This is not consistent, as Dr. Sharpe cut the genera of the *Fringillidae* generally very fine. *Haematospiza* differs from *Carpodacus* in having a much harder, shorter body-plumage; the tail is comparatively shorter, the wing very long, but not so much pointed; the distance from the tips of the primaries to those of the secondaries is less (only 22—23 mm.), the first (developed) primary is 7—10 mm. shorter than the longest, the coloration peculiar.

3. The proper name of the Sinaitic Rose-Finch.

This bird has been described by Temminck (*Pl. Col.* 375, 1825) as *Pyrrhula synoica*, the latter name, of course, meaning "social," a fact that might have been guessed even by those who knew no Greek from Temminck calling the bird "Bouvreuil social." Why the "Catalogue of Birds," and almost all modern works, call this species *Carpodacus sinaiticus*—Bonaparte et Schlegel, *Monogr. Loxiens*, p. 17, 1850 (!)—is difficult to understand, unless it was suspected that *synoica* should have meant *sinaitica*?

Among the synonyms of *Carpodacus synoica* Dr. Sharpe includes *Carpodacus uropygialis* Licht. This is a nomen nudum, and would therefore best be quoted with a query, but the specimens in existence show that it should have referred to *Serinus xanthopygius*, where, in fact, it was also quoted by Sharpe! Then Dr. Sharpe quotes *Erythrospiza githaginea*, *Ibis*, 1874, p. 108. There the author tells of a party of birds seen by him in Egypt. That was, of course, **not** *C. synoica*, which is only known from the Sinai peninsula, but really *E. githaginea*, which occurs in Egypt.

4. Notes on the genus PASSER.

The despised House-Sparrow, the "Avian Rat" of Mr. Tegetmeier, is scientifically as interesting and as difficult as many other birds of greater rarity. As it is so common and easily collected—often easily enough from one's bedroom windows—one might expect to find large series from every country in every museum. This, however, is not so, as many collectors do not think it worth while to trouble about so common a bird—in fact, specimens in various plumages from various countries are most insufficiently represented in most museums. A few—mostly synonymical—notes which should be added to the short résumé in my "Vögel der paläarktischen Fauna" might here find a place.

With the exception of the chestnut-headed Italian sparrow, I cannot at present separate any forms on the continent of Europe, but the North-west African birds are separable. The name *tingitanus* Loche (ex Bp. nom. nud. !) might be accepted for this form. The differences are described in my book on the Palaearctic birds.

Among the list of synonyms in *Cat. B.* xii. p. 309, figures *Fringilla pyrrhoptera* Lesson, in *Bélang. Voy. Ind. Or.* p. 274 (1834), but doubtless erroneously, for

that bird is described as having "la tête et le cou brun roux sans taches, tout le dessous du corps gris roux blond," besides other discrepancies. I should say it might much sooner refer to *Passer cinnamomeus* than to a form of *domesticus*, but it is said to come from the Coromandel coast, where *P. cinnamomeus* is not found.

Passer rufipectus Bp., *Consp.* i. p. 509 is referable to a not very rare variety of the North-east African race of *P. hispaniolensis* with rufous-spotted chest.

Passer pallasi Bp., *Compte Rend.* xxxvii. p. 915 (1853—Northern Asia, in Mus. Paris) is not mentioned in the "Catalogue of Birds." It is evidently the Siberian form of *Passer hispaniolensis*, though the sides are said to be unspotted. I am obliged to Dr. Oustalet for kindly examining the type in the Paris Museum, which was purchased from Verreaux.

Passer ploceisoma Bp., *Compte Rend.* xxxvii. p. 915 (1853—Frankfurt Mus., no locality stated) is not mentioned in the "Catalogue of Birds." It is no doubt a synonym of *Philaeterus socius* (*Cat. B.* xiii. p. 249), and not a *Passer* at all.

Passer ruppeli (sic) Bp., *Consp. Av.* i. p. 510 (1850—"Afr. or.," in Mus. Frankfurt) is in *Cat. B.* xii. p. 318 quoted as a synonym of *Passer hispaniolensis*, but nothing in the description refers to that bird! *P. ruppeli* is in fact nothing else than *Ploceipasser superciliosus*—notwithstanding the ridiculous protest of its author in the *Compte Rend.* xxxvii. p. 915. To which other bird in the Senckenbergian Museum or anywhere else could the words "Cinereo-brunneus, pileo dilute rufo, gula alba, vitta hinc inde marginali nigricante," etc., refer! Probably Prince Bonaparte got his notes mixed, for he says of his *Passer ruppeli* "*Pyrgita cisalpina* ex Afr. or. Rüpp." but that is an erroneous note, not affecting the diagnosis, which clearly describes *Ploceipasser superciliosus*.

Passer confucius is quoted (*Cat. B.* xii. p. 309) among the synonyms of *P. domesticus*. First of all the quotation should be *Compte Rend.* xxxvii. p. 915 (1853), and not "Notes Orn. Coll. Delattre," to enable the unfortunate reader to find the publication. Why it is quoted among the synonyms of *P. domesticus* is difficult to see, as the description is that of a specimen of *Passer jagoensis*. I am obliged to Prof. Oustalet, who has kindly informed me that the type is a specimen of *P. jagoensis* with a somewhat dark crown. The locality China (Botta coll.) is an error, of course.

The African Sparrows consist of a number of very distinct groups. In North Africa we have *Passer domesticus* in various races. It is more than lumping, and not pardonable, to unite *Passer rufidorsalis* with *Passer domesticus* pure and simple. Shelley's remarks in vol. iii. of his *Birds of Africa*, p. 240, are not correct. *Passer domestica arboreus* Bonaparte is the correct name of this form, which extends along the Nile valley from Dongola and Berber to 12° north lat. (cf. Rothschild and Wollaston, *Ibis*, 1902, p. 9).

Passer castanopterus Blyth and *Passer emini-bey* (Hartl.) are very singular species standing quite by themselves. *P. castanopterus* is apparently nearest and probably related to the Indian *P. rutilans cinnamomeus*, but the back is quite different. Hartlaub described the other species as "*Sorella emini-bey*," I therefore spell the name *Passer emini-bey*, because the separating of the specific name into two parts might lead some one to believe that "*bey*" was a subspecies of "*emini*." I cannot, however, see how we can alter "*emini-bey*" into "*emini*": that would be quite a new method of nomenclature, and we could just as well alter *Vanessa C-album* into *Vanessa C.*

Another and larger group is that of *Passer diffusus* and its various subspecies.

Shelley's separating *diffusus* and *crassirostris* as two species, while not recognising *gularis*, *occidentalis*, *swainsoni* and *ugandae* is quite arbitrary; moreover it is most uncertain to accept Heuglin's name *crassirostris* for the thick-billed form of *P. diffusus swainsoni*. The latter inhabits Witu, Lamu, Gongoni, Nairobe, and goes as far west and north as the Omo River; but that is still a long way from Fazokl on the Blue Nile, where Heuglin's *crassirostris* was found. The type should be examined before accepting the name *crassirostris* without reserve.

The synonymy of *motitensis* and its forms in Shelley's book is quite objectionable. *P. motitensis*, *rufocinctus* and *shelleyi* (auctorum) should be "lumped" by the adherents of the old shaken school of non-subspecific ornithologists who will only separate conspicuous forms—the "conspicuists" as they are termed by Rothschild and Jordan—because the second differs from the first only in the grey ear-coverts and less cinnamon, more brown and black back, the last only in its smaller size and clearer tints, and a little larger and more conspicuous black area beyond the eye. Moreover, the name *cordofanicus* Heuglin (not Finsch) *Suppl. Orn. N.O. Afr.* p. 141 (1871) (ex Heuglin *op. cit.* i. p. 634, not nom. nud.!) must be adopted for the bird called *shelleyi* in 1896, but not for *rufocinctus*. *P. mot. motitensis* inhabits S. Africa, *P. mot. rufocinctus* the Masai country (Naiwasha lake, Machako's, Nairobe, Kikuyu, extending to Somaliland, teste Hawker), *P. mot. cordofanicus* (= *shelleyi* Sharpe) the White Nile from Lado to Melpez in Kordofan. According to my ideas of geographical distribution the Kordofan form must be that of Lado and not that of the Masai country.

5. What is LINOTA PYGMAEA Stoliczka?

In the *Journal of the Asiatic Society of Bengal*, vol. xxxvii. pt. ii. p. 62 (1868) Dr. Stoliczka described as a new species

Linota pygmaea

from Chini and Padam, Ladakh.

This description has been overlooked by Sharpe, who did not quote it in *Cat. B. Brit. Mus.* xii., but he quoted *Linaria pygmaea* Gray, *Hand-list*, ii. p. 109 (1870), from Ladakh as a synonym of *Acanthis brevirostris*," without saying that it is a mere "nomen nudum." In Part I. of my *Vögel der paläarkt. Fauna* I omitted also to mention *Linota pygmaea*, having overlooked it like Sharpe.

Mr. Oberholser in *Proc. U.S. Nat. Mus. Bengal*, xxii. p. 226 (1900) adopts Stoliczka's name *pygmaea* for the Cashmere subspecies of *Acanthis flavirostris*, calling it *Acanthis brevirostris pygmaea* (Stoliczka). This is no doubt erroneous, as the description of Stoliczka cannot refer to a form of *Acanthis flavirostris* (or *brevirostris*).

The statements that *L. pygmaea* is "considerably smaller than *Metoponia pusilla*," that the "edges of the outer webs of the primaries and partly also of the secondaries are yellow," and that the "throat is slightly tinged with yellow," cannot refer to an *Acanthis* of this group. The Cashmere form which Oberholser for the first time duly separated must be called *Acanthis flavirostris stoliczkae* Hart. Under this name I described it in *Vög. pal. Fauna*, p. 77 (1903).

With regard to Stoliczka's name *pygmaea* I do not know for certain where to refer it, but I am inclined to think that it meant a young *Serinus pusillus*. It will therefore be best to quote it with a query under the synonyms of *S. pusillus*, but in no case under *Acanthis flavirostris* or *brevirostris*, the latter being certainly only a subspecies of the former.

6. The genus LOXIA.

I have spent considerable time in studying the Crossbills, and I am very much obliged to various brother-ornithologists who kindly lent me specimens and notes, especially to Mr. A. Harvie-Brown and Mr. Eagle Clarke, in Scotland, Ritter von Tschusi zu Schmidhoffen, Mr. John Millais, Mr. W. Ruskin Butterfield, Professor Wilhelm Blasius, Mr. Howard Saunders, and Herrn Carl Hellmayr. I have thus been able to compare 405 Crossbills at one time in the Tring Museum. The British Crossbills gave the greatest trouble. It took me no time to confirm what I knew for many years—namely, that *pytyopsittacus* (first described by Borkhausen, 1793, not by Bechstein) was a totally different species, and that the large-billed Scottish Crossbills are not *pytyopsittacus*. The question arose: What to do with the Scottish form? Although it is of course possible that *pytyopsittacus* occasionally reaches Scotland as an exceptional visitor, none of those that I saw belong to it. But even the English Crossbills are not the Scottish ones; they are mostly smaller, and are very close to *L. curvirostra curvirostra*, but they have generally thicker bills and duller colours. My conclusions therefore are, that on the Continent the true *pytyopsittacus*—though probably originally developed from *curvirostra*—has become so widely distinct as to be able to live and breed in the same districts with *curvirostra*, and therefore must be regarded as a species.

In Great Britain, where all Crossbills have thicker bills, a similar development took place. Here the British form (*Loxia curvirostra anglica* Hart., *Vög. pal. Fauna*, p. 119) has also assumed larger bills and general dimensions in the mountain-forests of Scotland, but its development has not gone so far that we can treat it as a species, for some specimens connect them with *anglica*. I have therefore called the Scottish form *Loxia curvirostra scotica* (*Vög. pal. Fauna*, p. 120).

7. The forms of PASSER SIMPLEX.

Passer simplex, the Desert-Sparrow, has been originally described from Ambukol in Nubia, and was, according to Heuglin, common on the wells in the Bajuda, in northern Kordofan and Sennaar, as well as in the desert east of Berber. Baron von Erlanger has separated the Tunisian form as *Passer simplex saharae*, because it was lighter and clearer grey and had a black bill. The latter character cannot serve for distinguishing this form, because it is evidently seasonal. In Tunis and Algiers yellow-billed males occur in autumn, and Heuglin found the Nubian form black-billed in spring. Unfortunately all recent travellers (Koenig, the Hon. N. C. Rothschild and others) have failed to come across *Passer simplex* anywhere in Nubia. Therefore fresh specimens cannot be compared with Tunisian and Algerian ones. We have the odd case that only fine, freshly collected examples from Algiers and Tunis are to hand, only old ones (the types in Berlin being eighty years old) from Nubia. It is true that they look different, as described by Erlanger, but the study of fresh material is desirable! It is queer that *P. simplex* has not recently been found in Nubia, especially as Messrs. Koenig and Rothschild have specially looked out for them. Apparently the birds have left the Bajuda altogether, though we do not know the reason.

A well-marked form is *Passer simplex zarudnyi* from Transcaspia.

(THESE NOTES WILL BE CONTINUED.)

NEW *DREPANULIDAE, THYRIDIDAE, URANIIDAE*, AND *GEOMETRIDAE* FROM THE AETHIOPIAN REGION.

By W. WARREN, M.A., F.E.S.

Family *DREPANULIDAE*.

1. **Oreta angustipennis** spec. nov.

Forewing: pale yellow, with a few brown speckles; costa tinged with pale brown; a pale brown patch in cell, prolonged beyond it to apex, which above the oblique line is wholly brown; a pale brown line oblique from apex to before middle of inner margin; a brown cell-spot at middle of discocellular, connected by a fine brown line with a slight spot at lower angle; fringe brown, yellow at anal angle.

Hindwing: wholly pale yellow, the oblique line of forewing produced across the base; fringe brownish; a few submarginal brown specks.

Underside of forewing baseward from the oblique line brown, this colour extending also slightly down the hindmargin; the rest pale yellow; a slight yellow blotch beyond the cell in the brown area; speckling coarser than above: hindwing yellow.

Face, pectus, and forelegs dull red; vertex brown; thorax and abdomen yellow, the latter with a brown line continuing that of the wings; all the tarsi reddish.

Expanse of wings: 30 mm.

1 ♀ from Amambara Creek, River Niger (Braham).

Antennae with clavate serrate uniseriate pectinations: forewing narrower than usual in the genus.

Family *THYRIDIDAE*.

2. **Dysodia flammata** spec. nov.

Forewing: a mixture of deep red, leaden grey, and fuscous; the transverse streaks brownish; a broad subcostal streak of leaden grey, and a slight tinge of the same colour along inner margin and at base of wing; costa with dark spots, the intervals red in basal half and ochreous beyond; a bright red spot on discocellular, followed by a crescent-shaped hyaline white spot: the red spot is preceded and the white blotch followed by darker blotches from the costa of fuscous and red not reaching below the median; the marginal area beyond is orange yellow, varied with red and crossed by brown lines, the apex and hindmargin being again fuscous and brown.

Hindwing: yellow and fiery orange, with darker cross-lines; a large loaf-shaped hyaline white blotch in the end of the cell, which is very broad; fringe brown.

Underside dull flesh-colour, with the markings dark brown: a costal blotch beyond middle of forewing embracing the white blotch and upturned to median vein before it; a brownish submarginal streak from costa and patch at anal angle: hindwing with brown patches at base, below and beyond the hyaline blotch, and at apex.

Head and thorax smooth violet-grey; face and palpi above and antennae darker; scales of the shoulders and patagia very broad and flat; abdomen fiery orange, ochreous beneath.

Expanse of wings: 22 mm.

1 ♂ from Zomba, Upper Shiré River, 3000 ft., December 1895 (Dr. P. Rendall).

Forewing with costa inflexed at middle, inner margin sinuate; hindmargin vertical to vein 3, then extremely oblique: hindwing with elbow at vein 3, the inner margin short; palpi with very long second segment.

Somewhat resembling *D. fenestratella* Warr. from East Africa, but of quite different colour.

Family *URANIIDAE*.

Subfamily EPIPLEMINAE.

3. **Epiplema dohertyi** spec. nov.

Forewing: white clouded with grey, the costa dotted with black; the two transverse lines finely white with dark edges; first from costa a little before middle to before middle of inner margin, sharply angled outwards on the median vein; outer line from two-thirds of costa to three-fourths of inner margin, vertical and irregularly waved, indented on vein 4, edged outwardly by a dark grey shading and inwardly by ferruginous scaling; the space between them above middle filled in with leaden grey scales outwardly black-edged, the grey scales below the middle mixed with whitish; a large brownish fuscous blotch between veins 4 and 6 before margin, outwardly containing a blackish bracket-shaped mark; a row of black submarginal dots; extreme margin grey; fringe ferruginous, with a white basal line.

Hindwing: with costal area white; the inner line biangulate, black-brown; outer line curved, finely white, inwardly edged with ferruginous scales, following a central dark grey cloud; a deep chestnut-brown blotch, mixed with ferruginous and plumbeous scales before the lower tooth; fringe brown; some dark spots along inner-marginal fold.

Underside of forewing pale grey, of hindwing whitish, with some brown scales before margin.

Face and palpi dark brown; vertex, shoulders, and patagia whitish; thorax and dorsum dark grey; a white spot on metathorax.

Expanse of wings: 10 mm.

1 ♂ from Mombasa (Doherty).

Hindmargin of forewing entire; of hindwing with curved teeth below veins 4 and 6; antennae with distinct curved clavate teeth.

4. **Epiplema semipicta** spec. nov.

Forewing: pale grey, speckled with darker, and in the outer half of wing with a slight brownish suffusion; no inner line visible; outer line fine and indistinct, from three-fifths of costa, oblique outward to vein 6, then vertical, incurved from vein 4 and reaching inner margin a little before anal angle; a brown crescent-shaped mark, inwardly edged with black, along the margin of the subapical excision; fringe brown from apex to middle, below it grey.

Hindwing: smooth, lilac grey, tinged with plum-colour; a dark bracket-shaped basal line; outer line angled on vein 4, sinuous on each side, ferruginous, edged on both sides with pale, from middle to inner margin edged inwardly by a broad dark brown streak; discal mark long and curved, like the upper part of outer line, ferruginous with pale edges; a ferruginous line along cell above vein 4, and an angulated ferruginous mark below the cell-spot; the angle of outer line with some grey and ochreous scales; dark brown marginal lunules from upper tail to vein 2, with three slight pale dashes.

Underside lilac-grey, with dark speckling.

Face and palpi black; vertex, thorax, and abdomen grey.

Expanse of wings: 18 mm.

1 ♂, 1 ♀, from Mombasa (Doherty).

Forewing excised from apex to vein 4; hindwing toothed at veins 4 and 7; antennae of ♂ with close clavate-serrate teeth, of ♀ lamellate.

Family *GEOMETRIDAE*.

Subfamily GEOMETRINAE.

5. **Agathia pauper** spec. nov.

Forewing: apple-green; costa broadly greyish brown; a dark brown basal patch; a narrow red-brown band from the costal streak just before the middle, kneed outwards on vein 4, then concave outwards to inner margin, nearly touching the outer band; this runs obliquely outwards from four-fifths of costa to a brown blotch at middle of hindmargin, then curves away sinuous to just before anal angle, leaving a small elongated greenish patch between it and the brown hindmargin; both this and the median band are traversed by a pale line along their centre.

Hindwing: with no median band; the outer band as in forewing, but bent above middle, and below middle coalescing with the marginal band to anal angle, and running narrowly half-way up the abdominal margin.

Underside whitish green, with the outer band showing through.

Face, fillet, and antennae ochreous; vertex marked with brown; shoulders, patagia, thorax, and basal segments of abdomen green; rest of abdomen ochreous, with a reddish tinge.

Expanse of wings: 26 mm.

1 ♂ from Warri, November 1899 (Dr. Ansorge).

The usual tail at vein 4 of hindwing is reduced to a mere blunt tooth.

6. **Agraptochlora pallida** spec. nov.

Forewing: pale whitish green, powdered with darker green, with very faint indications of two darker lines, the first from one-fourth of costa curved to one-third of inner margin, the outer from four-fifths of costa to three-fourths of inner margin, the intermediate space being slightly darker, with a deep green cell-spot.

Hindwing: like forewing, but the darker green powdering more evident.

Underside similar.

Face grey-brown; vertex and antennae white; thorax and abdomen pale green.

Expanse of wings: 30 mm.

1 ♂ from Bihe, Angola, November 1901 (Pemberton).

This species differs in coloration from all others of the genus, which are

without exception deep green; but it agrees with them in the extreme shortness of the palpi and in the structure of the pectinations of the antennae of the ♂, which are thickened towards their apices and strongly ciliated. In shape of wings it is much like the following species. The fringes were probably concolorous: in this genus they are always short, and appear peculiarly apt to be worn away.

7. **Agraptochlora rubriceps** spec. nov.

Forewing: deep green; the costa yellow; small brown dots at the ends of veins; a deeper green cell-spot.

Hindwing: deep green, with similar dots; fringes grey.

Underside pale green, the costa of both wings yellowish.

Face and vertex deep red; antennae reddish; thorax green; abdomen (greased) apparently reddish; legs dull reddish.

Expanse of wings: 30 mm.

1 ♂ from Bihe, Angola, November 1901 (Pemberton).

The species is near *A. nigricornis* Warr.; the wings are short and broad.

Chlorochaeta gen. nov.

Forewing: costa straight, curved towards apex, which is bluntly rounded; hindmargin oblique, slightly curved.

Hindwing: with long inner margin, the anal angle rounded, but prominent; hindmargin slightly curved.

Antennae (♂) with long pectinations; palpi porrect, second segment roughly and loosely scaled, third short, drooping; frenulum very slight; tongue small, ill-developed; legs stout, roughly scaled; hindtibia with four stout spurs and a long process; abdomen with traces of brown and white spots, roughly scaled.

Neuration: forewing, cell two-fifths of wing, discocellular oblique below; first median nervule at three-fourths, second from end of cell with third; lower radial from above centre of discocellular; upper stalked with 10, 7, 8, 9; 11 free: hindwing, 3, 4 and 6, 7 short stalked.

Type: *Chlorochaeta longipennis* spec. nov.

In the shape of the hindwing this genus approaches the S. American *Tachyphyle* Butler.

8. **Chlorochaeta longipennis** spec. nov.

Forewing: bright yellow-green; costa white; cell-spot and marginal line red-brown; fringe red-brown, mixed with paler scales towards apices.

Hindwing: with cell-spot, marginal line, and fringe as in forewing.

Underside whitish green; costal half of forewing tinged with yellowish green; both wings with brown cell-spot and yellowish green postmedian line; slight red-brown marginal dashes between veins; fringe white, varied with red-brown.

Palpi white, dusted with red-brown above; head, thorax, and abdomen green; lower part of face, fillet, and tips of shoulders whitish; dorsum varied with reddish hairs; a red-brown tuft on second segment and a white spot on third and fourth; abdomen below, pectus, and legs white; tarsi spotted with red-brown; antennae (broken) white, with red-brown pectinations.

Expanse of wings: 22 mm.

1 ♂ from Degama, Niger, May 1902 (Dr. Ansorge).

9. **Heterorachis rubella** spec. nov.

Forewing : bright green, with numerous pale vermiculations ; costa cream-coloured, with fine reddish speckling, redder at base and before apex ; a bright-red cell-spot and a blotch of the same colour between veins 2 and 3 ; marginal line bright red, emitting bright red triangles into the whitish fringe beyond the veins.

Hindwing : similar ; cell-spot larger and browner ; no spot between veins 2 and 3.

Underside whitish green, with the red markings showing slightly through.

Face, palpi, and forelegs red above, pale ochreous below ; antennae pale, with a red tinge towards the tips ; vertex cream-colour, edged behind with reddish ; shoulders, patagia, thorax, and a lateral streak along basal segments of abdomen green ; dorsum with a dull red streak, becoming diffuse and broad on the anal segments, which are pale.

Expanse of wings : 35 mm.

1 ♀ from Amambara Creek, River Niger (Braham).

10. **Prasinocyma ampla** spec. nov.

Forewing : very pale green, rippled with whitish ; fringe pale green ; costal edge ochreous, and the costal area towards base apparently whiter.

Hindwing : the same.

Underside pale green.

Face and palpi reddish above, paler below ; vertex and shoulders white ; patagia and thorax pale green ; abdomen white, tinged with greenish.

Expanse of wings : 38 mm.

1 ♀ from Bihe, Angola, October 1901 (Pemberton).

11. **Prasinocyma pictifimbria** spec. nov.

Forewing : bright green, densely rippled with ochreous ; the costa broadly white, with ochraceous edge ; fringe yellow, dotted with pink beyond the veins.

Hindwing : the same ; the pink spots in the fringe more conspicuous.

Underside pale yellowish green ; costa of forewing yellowish.

Head, thorax, and abdomen green, mixed with white scales ; the abdomen whiter ; face rubbed, apparently dull reddish brown ; vertex white.

Expanse of wings : 26 mm.

1 ♂ from Bihe, Angola, November 1901 (Pemberton).

12. **Archichlora marcescens** spec. nov.

Forewing : pale yellowish green ; a cream-coloured costal streak, thickly dusted with olive rufous atoms ; inner and antemedian lines white, slender ; the first from below one-sixth of costa to one-fifth of inner margin, where it is bent outwards ; the inner margin below submedian vein from base to this line like costa, pale with rufous dusting ; antemedian line from subcostal vein at one-third, oblique outwards and bent above median vein, then vertical and again inbent at vein 1 to middle of inner margin ; beyond this line the area below vein 3 to hindmargin is cream-coloured, tinged and striated with pale rufous, and slightly greenish in places, with a greyish-brown patch at anal angle ; above vein 2 the pale area divides, the inner and broader arm ending in a cone on vein 6 touching a

projecting tooth from costal streak, the outer running along hindmargin to apex and broadening inwards to form a paler quadrate patch between veins 5 and 7; marginal line dull red-brown, swollen between the veins; fringe pale brownish.

Hindwing: similar; basal space before first line washed with white; pale area beyond second line more broken by green spaces; the whiter subquadrate marginal blotch not extending above vein 6, the submarginal green interspace narrower; the veins beyond middle cream-coloured, dotted with dark grey, more conspicuously than in forewing.

Underside uniform greenish cream-colour; costal edge of forewing and fringes pale brownish.

Head, collar, shoulders, and abdomen cream-coloured, speckled with rufous and grey; face and outer side of palpi deeper rufous; thorax and patagia and basal segment of abdomen pale green (the parts of the thorax are worn, but the green was probably somewhat varied with paler); abdomen green-tinged above; abdomen beneath and legs cream-colour; forelegs rufous in front; antennae pale, with a rufous tint.

Expanse of wings: 40 mm.

1 ♀ from Amambara Creek, Niger River (Braham).

Subfamily STERRHINAE.

13. **Chrysocraspeda leighata** spec. nov.

Forewing: pinkish lilac, covered with darker transverse striae; the costa vinous red; marginal area narrowly yellow, the edge of the red ground-colour curving from apex to vein 4, running in basewards slightly at vein 4 and again at vein 2, preceded by a broad dark purple band; cell-spot vinous red; fringe yellow.

Hindwing: with basal half like forewing, outer half yellow, with bright-red striae; cell-spot purple, like the outer band, which projects tooth-like into the yellow margin at vein 4; fringe yellow.

Underside pink, without striae; outer half of hindwing yellow; the submarginal band dull purple, almost obsolete in forewing.

Head, thorax, abdomen, and antennae all red.

Expanse of wings: 17 mm.

1 ♂ from Durban, Natal (G. F. Leigh).

Emmiltis (Craspedia) magnidiscata spec. nov.

Forewing: bone-colour, with an ochraceous tinge when fresh, with a few black speckles; first and outer line marked by precise black dots on veins, the first curved at one-fourth, the outer, parallel to hindmargin, from four-fifths of costa to three-fourths of inner margin; the spots connected by a slightly darker shade than the ground-colour; two similar submarginal shades enclosing the pale submarginal line; a row of black marginal dots; fringe glossy, concolorous; cell-spot black, distinct; an obscure oblique median shade.

Hindwing: similar, but the cell-spot large, roughly angular.

Underside with outer and marginal lines and cell-spots; forewing slightly grey-tinged.

Face and palpi black, paler below; thorax and abdomen bone-colour, the latter with black dorsal spots; vertex white.

Expanse of wings : 22 mm.

1 ♂, 1 ♀, from Callulu, Angola, July 1901 (Pemberton).

A very neatly marked insect.

15. **Emmiltis (Craspedia) mombasae** spec. nov.

Forewing : bone-colour, with partial fine black speckling ; five wavy ochreous-grey lines, oblique parallel to hindmargin, the antemedian, median, and postmedian fairly distinct, the two submarginal very obscure ; minute black marginal dots ; fringe concolorous ; cell-spot black, distinct.

Hindwing : with four lines, the antemedian forming a semicircle in front of the large black cell-spot.

Underside with cell-spots, outer lines, and marginal dots ; cell of forewing tinged with brownish, and with a few coarse brown speckles.

Face and palpi black : vertex, thorax, and abdomen bone-colour.

Expanse of wings : 14 mm.

2 ♂♂ from Mombasa (Doherty).

16. **Pisoraca sanguinata** spec. nov.

Forewing : smooth ashy-grey, hardly speckled ; basal line denoted by three neat black dots in a curve at one-fifth ; outer line by smaller dots at four-fifths ; minute dots at end of veins and indications of others between them ; fringe ochreous with a red tinge.

Hindwing : similar, with a slight cell-spot ; on middle of inner margin a small patch of black scales, which is less evident on forewing.

Underside of forewing deep flesh-colour, along costa grey, along inner margin white ; outer line of red spots ; marginal spots purple ; fringe rufous, paler at base ; hindwing white along base and inner margin ; the rest as in forewing ; cell-spots in both wings red.

Face, palpi, and forelegs above deep blood-red, ochreous below ; vertex, thorax, and abdomen grey ; abdomen with lateral blood-red streaks ; below white.

Expanse of wings : 30 mm.

1 ♀ from Durban, Natal, October 1902 (G. F. Leigh).

Very much like *P. cryptorhodata* Wlk. from Australia.

17. **Ptochophyle subumbrata** spec. nov.

Forewing : yellow, sprinkled with red striae ; the costal edge purplish grey ; no distinct lines ; three red spots on veins denote the basal line ; two red lunules on veins 3 and 4 indicate a postmedian line ; some slight clouds in the marginal area ; a row of purplish marginal spots ; fringe yellow, purplish at anal angle.

Hindwing : with indications of lines on inner margin only ; a purplish patch at anal angle ; marginal spots as in forewing.

Underside paler, without striae ; forewing with basal half, except on inner margin, and a broad submarginal band purplish grey ; purplish marginal spots more or less coalescent into a line ; hindwing with slight central line and interrupted submarginal shade purplish grey ; marginal spots purple.

Face, palpi, thorax, and abdomen yellow, striated with red ; antennae dark, purplish grey.

Expanse of wings : 20 mm.

1 ♀ from Degama, Niger, April 1902 (Dr. Ansorge).

18. **Ptychopoda circumsticta** spec. nov.

Forewing : ochreous, finely dusted with blackish atoms ; the lines blackish ; first at one-fourth, angled beneath subcostal vein ; outer line at three-fourths, irregularly crenulate, insinuate beyond cell and on submedian fold, both parallel to hindmargin ; cell-spot black, conspicuous, followed by a diffuse median shade ; two submarginal dark shades containing between them a pale submarginal line ; fringe ochreous, finely dusted with dark, and with large distinct black spots in basal half beyond veins.

Hindwing : the same, but without basal line ; the shade antemedian, preceding the cell-spot, which is large and conspicuous.

Underside very thickly dusted with dark atoms ; all the lines shown darker ; the cell-spots still larger.

Face and palpi dark brown ; vertex, thorax, and abdomen ochreous.

Expanse of wings : 16—17 mm.

2 ♀♀ from Caconda, Angola, December 1901 (Pemberton).

A smooth and neatly marked insect.

19. **Ptychopoda minimaria** spec. nov.

♂. *Forewing :* luteous, tinged and coarsely speckled with darker ; three brown lines parallel to hindmargin at equal distances apart, the outer followed by a darker shade ; fringe with rather large dark dots along the base.

Hindwing : with the two onter lines only.

Underside paler, with the lines all marked.

Face and palpi black ; thorax and abdomen like wings ; vertex paler.

The ♀ is much paler, without speckling, and with the lines hardly marked.

Expanse of wings : ♂, 10 mm. ; ♀, 12 mm.

1 ♂, 1 ♀, from Mombasa (Doherty).

Nearest to *Pt. exilinota* Warr. from Natal, a very small specimen of which also comes from Mombasa ; but that species is smoother and darker, and has the lines more vertical.

20. **Ptychopoda torrida** spec. nov.

Forewing : ochraceous, coarsely dusted with dark scales ; the lines distinct, leaden grey, all angled inwards on submedian fold, and outwards on submedian vein ; first at one-fifth, the outward angle on the median slight ; median with all three angles strongly expressed ; the large cell-spot just above the ontward angle on the median vein ; outer line angled inwards on vein 7 and outwards on vein 6, then parallel to hindmargin to the angle on the submedian fold ; a dark macular submarginal shade interrupted beyond cell and on submedian fold ; some blackish marks along hindmargin ; fringe mottled with grey.

Hindwing : without first line.

Underside pale ochreous, with the markings showing through only.

Face and tips of palpi black ; rest of palpi, vertex, thorax, and abdomen ochraceous.

Expanse of wings : 14 mm.

1 ♀ from Cunene, Angola, February 1902 (Pemberton).

Forewing narrow, with pointed apex ; hind- and inner margins of equal length : hindwing with fully rounded hindmargin.

21. **Sterrha hispidata** spec. nov.

Forewing: whitish, slightly transparent, clothed with rough sparsely disposed blackish scales; the lines black, diffuse; a small blotch on costa near base; first line at one-fourth, oblique inwards, and sharply angled outwards on the veins, followed shortly by the median line, which is before the middle; cell-spot blackish, well beyond the median; outer line at two-thirds, waved to three-fourths of inner margin, insinuate beyond cell and on submedian fold; followed by a diffuse dark cloud, which between veins 2 and 4 is much swollen and projects towards hindmargin; submarginal line pale, distinct, following the course of the preceding shade, and therefore between 2 and 4 nearly touching margin; a black marginal line; fringe full and pale, with large black chequerings beyond veins.

Hindwing: similar, with no inner line; cell-spot very diffuse.

Underside shining whitish grey, slightly speckled; the markings showing through.

Head, thorax, and abdomen speckled like wings; abdomen with pale segmental rings.

Expanse of wings: 17 mm.

1 ♀ from Libollo, Angola, July 1901 (Pemberton).

Hindtibiae of ♀ with two spurs only. Distinguished by its rough loose scales.

Subfamily DELINIINAE.

22. **Hydatocapnia subapicata** spec. nov.

Forewing: grey, dark-speckled, varied with ochreous scales in places, and to a great extent suffused with darker grey and fuscous; lines indistinct; basal line at one-fifth, curved and marked on veins, with one or two grey lines within it; median line before middle, outcurved round the cell-spot, and with a dark grey shade along it; outer line a little beyond middle, curved parallel to hindmargin, black and acutely dentate, forming outward teeth on the veins, accompanied by yellowish scales; as far as this line the ground-colour is paler, beyond it suffused with dark grey; the line is followed immediately by a leaden-grey dentate shade and a broad dark grey band; in the middle of the broad marginal area the pale dentate submarginal line is preceded by black wedge-shaped marks and followed by a dentate-edged cloud; a row of dark marginal spots; fringe pale ochreous varied with pale grey.

Hindwing: with only the base pale; otherwise like forewing, without the basal line.

Underside dark greyish fuscous; the outer line represented by a faintly paler band, beyond which the marginal area is much blacker; apex of forewing black, separated from rest of wing by a broad waved whitish band from costa to hindmargin; cell-spots black; costa of forewing striated light and dark; fringe of forewing ochreous.

Head, thorax, and abdomen a mixture of ochreous and grey, the face and vertex being paler and the abdomen greyer.

Expanse of wings: 34 mm.

1 ♀ from Degama, Niger, May 1902 (Dr. Ansorge).

In the absence of the ♂ I place the species in *Hydatocapnia* Warr., with which it agrees in the very short cell—only one-third of wing—and the necessarily elongated nervules. It is easily distinguished by the black pale-banded apex of forewing beneath.

Neopolita gen. nov.

Forewing : triangular; costa straight, shortly arched at base and apex ; apex slightly prominent ; hindmargin vertical to vein 4, there rounded and oblique.

Hindwing : with well-rounded hindmargin ; apex rounded : anal angle square.

Antennae of ♂ with very long uniseriate pectinations; palpi porrect, short, rough-scaled, terminal joint drooping ; tongue and frenulum present.

Neuration : forewing, cell less than half of wing; discocellular vertical above, oblique below ; first median nervule at three-fourths, second close before end ; radials normal ; 11, 7, 10, 8, 9 stalked together from well before end of cell, 11 anastomosing strongly with 12, 8 and 9 separating close before apex : hindwing, costal shortly approximated to subcostal near base only ; 7 and 3 well before ends of cell.

Type : *Neopolita bisecta* spec. nov.

Possibly allied to *Plutodes*.

23. **Neopolita bisecta** spec. nov.

Forewing : grey fawn-colour, finely dark-speckled ; costal area for two-thirds pale ochreous, with shining scales especially at base ; from two-thirds of costa a pale inwardly dark-edged line runs nearly parallel to hindmargin to three-fifths of inner margin ; at about one-fourth there are slight traces of a curved pale line with dark outer edge ; cell-spot dark, obscure ; a marginal dark line ; fringe yellow.

Hindwing : similar, without first line, the other nearly central ; in both wings the basal space within the line is darker than the marginal.

Underside glossy whitish, speckled with lilac-grey, and with the dark and light sections of upperside showing through.

Face fawn-colour : palpi ochreous yellow ; vertex white ; thorax and abdomen dark fawn, abdomen with pale rings.

Expanse of wings : 33 mm.

1 ♂ from Libollo, Angola, July 1901 (Pemberton).

Subfamily ABRAXINAE.

Durbana gen. nov.

I propose this as a new generic name for *Fidonia setinata* Feld., which I find differs considerably in neuration from *Lomaspilis pantheraria* Feld., which I made the type of the genus *Veniliodes* (cf. *Nov. Zool.* i. p. 421).

In *setinata* vein 11 of forewing rises from 12 ; 10 anastomoses strongly with 11 and again with 8, 9, which are stalked with 7 ; the discocellular is biangulate, and the lower radial rises from the lower outer angulation. In *pantheraria* 11 is free ; 7, 8, and 9, 10 are stalked, 9 anastomosing with 8. In both genera the ♂ antennae are pectinated and the ♀ simple.

24. Durbana setinata.

Fidonia setinata Feld., *Reise Nov.* t. 130 fig. 25, ♀. (1874)

Felder's type was a ♀, somewhat faded; in a very perfect (probably bred) specimen from Natal, lately examined, the colour of both wings is deep yellow. The ♂ differs much from the ♀. The yellow ground-colour of forewing is much reduced, so that the ground-colour appears dark brown, varied with blotches of yellow. These consist of a narrow streak along inner margin, a curved blotch from base of costa through cell to submedian fold, a small blotch towards end of cell, an irregular fasciaform blotch beyond cell towards anal angle, an elongated blotch before apex, and some spots along hindmargin: all these blotches narrow and angulated. In a second ♂ these blotches are still further reduced to mere yellow lines or streaks; and in this example the hindwing has the four spots along margin swollen into blotches, contiguous to each other and the hindmargin, forming a black marginal border, the usual three spots from costa before apex being also swollen to form a line.

2 ♂♂, 1 ♀, from Durban, Natal (G. F. Leigh).

25. **Rhodophthitus castus** spec. nov.

Forewing: cream-colour, marked with very fine black linear strigae, more thickly along costa and inner margin; the costal edge also with short thick black dots; fringe concolorous; no spots or markings.

Hindwing: generally with fewer strigae.

Underside similar, but the whole surface slightly grey-tinged.

Head and thorax cream-colour; face sometimes mixed with black scales; abdomen orange speckled with black; legs black, sometimes spotted with cream-colour.

Expanse of wings: 48 mm.

1 ♂, 1 ♀, from Bihe, Angola; and 2 ♂♂ from N. Bailundu, Angola, October 1901 (Pemberton).

Taken at the same time and localities as a series of *R. roseorittata* Butler, but manifestly distinct, in size as well as in coloration and shape of markings.

The ♂♂ of this genus are without a fovea in forewing. Except for this, there is little to separate them from *Bupalus* Leach.

Subfamily BRACCINAE.

26. **Hylemera auridisca** spec. nov.

Forewing: grey, dusted with darker, and with some yellow scales intermixed; cell-spot oval, orange ringed with dark grey; fringe grey; costa towards apex pale grey.

Hindwing: paler, especially in the costal area; cell-spot round and orange.

Underside yellowish; the inner margins and apex of forewing pale grey.

Antennae, upper edge of palpi, and tongue black: palpi beneath, face, vertex, and shoulders orange; patagia, thorax, and abdomen grey.

Expanse of wings: 34 mm.

1 ♂ from Degama, Niger, January 1902 (Dr. Ansorge).

27. **Hylemera capitifera** spec. nov.

Forewing: dull white, slightly diaphanous; the costa with a brown-grey stripe, outer third of wing brown-grey, invaded between veins 3 and 5 by the white ground-colour in the form of a beak; fringe brown-grey; cell-spot blackish, large, oblique.

Hindwing: with a round dark cell-spot; hindmargin narrowly grey-brown round apex and at anal angle, from vein 3 to 5 reduced to a line; fringe grey-brown.

Underside dull greyish white, the dark markings paler.

Palpi dark fuscous; face, vertex, and collar yellow; thorax and abdomen smoky grey; antennae blackish.

Expanse of wings: 37 mm.

1 ♀ from Amambara Creek, Niger River (Braham).

SUBFAMILY BISTONINAE.

28. **Aphilopota ambusta** spec. nov.

Forewing: pale fulvous brown; the basal area, the costal and hindmargins darkened by confluent black striae; the lines very indistinct; basal line from one-fifth of costa, bent on subcostal, then oblique to near base of inner margin; outer and submarginal lines very obscure, marked on costa at two-thirds and four-fifths, apparently angled above vein 6, then oblique inward to middle of inner margin and a little beyond, only marked above inner margin, and by a series of slight vein-spots; cell-spot black, distinct; a series of black marginal lunules; fringe blackish.

Hindwing: wholly covered with black striae, slightly paler towards costa, and more fulvous along inner margin; two black curved parallel postmedian lines near together as in forewing; black cell-spot touching inner line.

Underside grey, tinged with fulvous, and thickly covered with black striae.

Thorax, patagia, and four basal segments of abdomen pale brown; head, shoulders, metathorax, and anal segments of abdomen dark brown; palpi fuscous.

Expanse of wings: 34 mm.

1 ♀ from Caconda, Angola, December 1901 (Pemberton).

Agrees with typical *Aphilopota* in having the tongue absent, and veins 10, 11 of forewing coincident throughout.

29. **Cusiala? pulverosa** spec. nov.

Forewing: pale stone-colour, thickly covered with greyish green scales; the lines and shades of the same colour, but obscurely marked; a dark grey-green blotch at base; first line at one-fourth, double, the outer arm rather deeper on the veins; median shade a little beyond the middle, waved and cloudy, bent out round the lunular cell-mark; outer line dark green, more concise, from three-fourths of costa to two-thirds of inner margin, outcurved above middle, lunulate-dentate, followed by a cloudy shade; submarginal zigzag, preceded and followed by a dull grey-green shading; dark green marginal spots between the veins; fringe concolorous.

Hindwing: similar, but without basal line.

Underside cloudy grey, darker towards apex of forewing; outer line, marginal spots, and cell-spots marked.

Face and palpi brown ; fillet white ; vertex, shoulders, and patagia greenish grey ; abdomen pale grey.

Expanse of wings : 50 mm.

Palpi and tongue short.

1 ♀ from Durban, Natal (G. F. Leigh).

Of doubtful location in the absence of the ♂. All the other species of the genus are Indian and Eastern.

Haggardia gen. nov.

Forewing : elongate, ample ; costa convex at base, then straight, sometimes insinuate in middle ; apex distinct ; hindmargin strongly curved ; anal angle obtuse.

Hindwing : elongate ; hindmargin well rounded, subcrenulate.

Antennae (♀) with joints shortly angulate, tipped with a short bristle ; palpi quite short, hairy beneath ; forehead flat ; tongue absent ; frenulum present ; legs short ; ovipositor exserted, short.

Neuration : forewing, cell half as long as wing ; discocellular concave ; vein 1 at two-thirds, 2 at eight-ninths ; radials normal ; 7, 8, 9 stalked from the bend in subcostal ; 10 and 11 short-stalked ; hindwing, cell more than half as long as wing ; costal and subcostal approximating for quite half of cell ; 7 just before end of cell ; medians as in forewing.

Type : *Haggardia melanostigma* spec. nov.

It will be necessary to transfer to this new genus four species described by me (*Nov. Zool.* iv.) under the genus *Eubyja* : viz., *crenulata*, p. 90, and *grisea*, *subpunctata*, and *trisecta*, p. 91. They do not assort well with the species of *Biston* from the temperate zone.

30. **Haggardia melanostigma** spec. nov.

Forewing : fawn-colour, freckled with darker ; the veins pale ; a velvety-black transverse linear cell-spot ; lines slender, brown ; first from before one-third of costa to one-third of inner margin, slightly curved ; second sinuous, from four-fifths of costa to four-fifths of inner margin, excurved above median ; fringe (worn) concolorous.

Hindwing : without inner line.

Underside with the cell-spots only.

Head, thorax, and abdomen concolorous.

Expanse of wings : 48 mm.

1 ♀ from Bihe, Angola, October 1901 (Pemberton).

31. **Hirasa ? denticulata** spec. nov.

Forewing : dull brownish grey, peppered with black, and in parts suffused with an olive tint ; the lines fine, black ; first before one-third, biangulate below costa, first above subcostal vein, secondly in cell, then obliquely curved to inner margin ; outer line from three-fourths of costa, below which it is obscure, running outwards beyond cell, then strongly incurved to middle of inner margin, forming an outward angle on submedian vein ; in the space between the two lines a smoky grey median shade ; submarginal line obscurely paler, dentate-lunulate, preceded

and followed by darker clouds; a black marginal festoon, thickened between the veins; fringe concolorous; cell-spot indistinct.

Hindwing: like forewing; the cell-spot black and distinct.

Underside paler, olive-ochreous, speckled with blackish; cell-spots black; median shades and marginal areas deeper-coloured.

Head, thorax, and abdomen ochreous grey; face and palpi darker; foretarsi blackish, with pale joints.

Expanse of wings: 35 mm.

2 ♀♀ from Durban, Natal, September 1902 (G. F. Leigh).

Hindmargin, especially of hindwing, strongly crenulate; ovipositor exserted.

Referred to *Hirasa* provisionally. It will very probably require a new genus.

Subfamily ASCOTINAE.

32. **Chogada acaciaria** ab. **flavipleta** nov.

Forewing: white speckled with grey; the lines and markings as in the type-form; but the basal area and the space between outer and submarginal lines are filled up with pale buff.

Hindwing: with the outer buff band only.

1 ♂ from Durban, Natal (G. F. Leigh).

33. **Chogada acaciaria** ab. **fumata** nov.

In this remarkable aberration of *acaciaria* Boisd., the whole of the central area between the inner and outer lines of both wings is filled in with smoky-blackish, the rest of the wing-surface remaining white. This smoky tint also extends to the middle dorsal segments of the abdomen.

1 ♀ from Durban, Natal (G. F. Leigh).

34. **Ectropis? fulvitincta** spec. nov.

Forewing: whitish, speckled with black; the costal edge marked with short dark striae, the costal area greyer, and tinged with pale fulvous; lines blackish, but mostly marked only by black points on the veins and black spots on costa; first line at one fourth; median at a little before middle; outer line from two-thirds of costa to just beyond middle of inner margin close to median line, outcurved above, and marked by black teeth; the last followed, as the first is preceded, by a fulvous shade; submarginal line white, lunulate-dentate, preceded by a similar black shade and followed by an interrupted one; space on margin between 3 and 4 white; marginal spots large, black; cell-spot slight, linear; fringe white, chequered with grey.

Hindwing: similar, but without inner line.

Underside whiter, slightly grey-speckled; cell-spots black, that of forewing large and conspicuous; a black submarginal border, broad on forewing, leaving apex and a spot in middle white, narrow and fading out on hindwing.

Head, thorax, and abdomen whitish mixed with grey scales; face and palpi externally darker grey.

Expanse of wings: 32 mm.

1 ♀ from Durban, Natal (G. F. Leigh).

35. **Myrioblephara subaurata.**

Ectropis? subaurata Warr., *Nov. Zool.* vi. p. 306. ♀ (1899).

At the time of describing the type of this species, a ♀, I remarked that it was a doubtful *Ectropis*; and this proves correct. A ♂ from Bihe, Angola (Pemberton) taken in October 1901 has the long curved cilia of *Myrioblephara*, to which genus it must be transferred.

The palpi, as in the ♀, are longer than usual. On the underside of forewing the black markings are deeper, and the extreme apex is white.

Trigonomelea gen. nov.

Forewing: with a large and conspicuous fovea in the ♂; veins 10 and 11 free; otherwise, like the hindwing, agreeing with ordinary *Ideis*.

Palpi thick, the basal segment peaked below, the second globular, hiding the third; forehead produced to a point below: antennae of ♂ with broadly flattened triangular segments, the apex of each segment laterally with a small double fascicle of sessile cilia.

Type: *T. semifusca* spec. nov.

36. **Trigonomelea semifusca** spec. nov.

Forewing: white, finely speckled with grey; the basal area filled up with grey and whitish scales, limited by a geminate dark line at one-fourth, angled in cell, then oblique inwards; median shade outcurved from costa to inner margin just before middle; outer line lunulate-dentate, marked darker on the veins, from three-fourths of costa to inner margin close beyond median shade; submarginal line waved, whitish, ill defined; the whole space between median shade and submarginal line filled up by a purplish grey shade, extended to margin also between veins 4 and 7 and above anal angle, excepting a pale yellowish triangular blotch on costa beyond median shade; large black marginal spots; fringe white, dark grey beyond the shades.

Hindwing: with no grey basal patch, the purplish grey fascia extending to margin above vein 4, the hindmargin below middle white to anal angle.

Underside white, with the purplish grey tints showing through only; forewing with large black cell-spot and blackish apical patch, leaving the extreme apex white.

Palpi externally black, beneath and at extreme apex white; face and thorax white, the tips of shoulders and bottom of face grey; abdomen white with grey rings.

Expanse of wings: 40 mm.

1 ♂ from Durban, Natal, May 1902 (G. F. Leigh).

Subfamily SELIDOSEMINAE.

Dyscia Hüb.

At page 314 of the *Verzeichniss* Hübner, after this brief description of *Dyscia*, "Die Flügel ziemlich dick und massig, auch nachlässig bezeichnet und beschattet," places under it two species:

3031 *Dyscia conspersaria* Schiff. *Verz. Geo. G* 8 ; Hüb. *Geo.* 138.

3032 *D. emaciaria* Hüb. *Geo.* 425.

Both these species are included by Lederer in his list of the species of *Scodiona*, in the *Abh. Z. B. Ver. Wien*, 1853, p. 180 ; but as *conspersaria* was already the type of *Dyscia*, *Scodiona* must sink.

37. **Dyscia incondita** spec. nov.

Forewing : dull luteous grey, with an olive tinge, covered with dark transverse striae ; the striae darker along costa, especially towards apex ; inner line curved at one-third, very indistinct ; outer line at quite three-fourths, blackish, outcurved from costa, where it is followed by a pale luteous spot, then parallel to hindmargin, obscurely lunulate, the lunules being concave basewards and the teeth pointing inwards ; fringe concolorous ; cell-spot small, blackish.

Hindwing : similar.

Underside paler, the forewing luteous, the hindwing whitish, both thickly grey-speckled ; costa of forewing dull yellow, with dark striae ; cell-spots and outer line visible.

Head and shoulders slightly fulvous-tinged ; thorax grey ; abdomen pale grey.

Expanse of wings : 38 mm.

1 ♂ from the foot of Nieuwveld Mts., five miles N.W. of Beaufort West (Mrs. Butt).

The antennae are strongly plumose to the tip. In the forewing a vein is wanting, presumably 7 ; 8, 9 are stalked, 8 running to just below apex ; 10 and 11 stalked, 10 approximated closely to stalk of 8, 9, but not anastomosing.

38. **Dyscia perplexata** spec. nov.

In coloration and general appearance a facsimile of the last species, of which I should have considered it the ♀, except for certain differences in the markings and neuration. The cell-spots are larger and the inner line more distinct ; the outer line, as in *incondita*, is dentate-lunulate, but here the lunules are deeper and concave outwards, and the black teeth on the veins are distinct and point outwards ; along the margin is a row of black spots.

In the forewing there is no vein missing, 7, 8, 9 being stalked, 10 separate from 11 anastomoses with 8, 9 ; 11 far back anastomoses strongly with 12.

Expanse of wings : 42 mm.

1 ♀ from the same locality as *incondita*, but without date.

39. **Petelia glabra** spec. nov.

Forewing : dull grey, finely striated with brown, more thickly along costa ; the lines brown, diffuse ; first close to base, second from just before middle of costa to beyond middle of inner margin ; outer line at three-fourths, curved outwards below middle, followed above vein 4 by a brown cloud traversed by a pale submarginal line ; a fine black marginal line interrupted by the veins ; fringe concolorous ; cell-spot hardly marked.

Hindwing : without basal line ; cell-spot small, white ; striae thicker towards anal angle.

Underside pale, with faint striations ; a broad pale postmedian band without striae.

Head and thorax dark fuscous ; abdomen like wings.

Expanse of wings : 26 mm.

1 ♂, Amambara Creek, River Niger.

A smooth and slightly glossy insect, reminding one strongly of *nicetaria* Gnen. from South America ; the hindwings with a fovea, covered by hair scales, at base.

40. **Selidosema crassata** spec. nov.

Forewing : grey, suffused with dull flesh-colour and thickly spotted and striated with grey ; costal edge deeper red ; lines grey-black, more or less obscure ; first close to base, second at one-third, both curved ; cell-spot black ; submarginal line obscure, preceded by a deep brown-black shade, forming irregular wedge-shaped marks externally between the veins ; marginal area red-brown, the apex beyond submarginal line black-brown ; fringe dark brown, with two darker traversing lines.

Hindwing : with the two dark inner lines and the cell-spot ; submarginal line not marked.

Underside paler, reddish tinged in forewing, whitish in hindwing ; both wings with coarse grey speckling, black cell-spots, and darker marginal border.

Face and palpi rufous grey ; vertex pale grey ; thorax and abdomen fuscous tinged with reddish ; underside of abdomen, like hindwing, whitish with grey mottlings.

Expanse of wings : 30 mm.

1 ♀ from Durban, Natal (G. F. Leigh).

41. **Selidosema pinguis** spec. nov.

Forewing : mealy white, thickly sprinkled, and in parts suffused, with black ; the lines black ; first from one-fifth of costa to one fourth of inner margin, angled on subcostal vein, then oblique, darker spotted on veins, preceded by a yellowish shade, the extreme base blackish ; outer line from two-thirds of costa to a little beyond middle of inner margin, sinuous, outcurved between veins 6 and 2, and insinuate in submedian interval, also darker marked on veins and followed by a yellowish shade ; median shade a little before middle, slightly curved ; space between it and outer line filled up with blackish ; cell-spot large, of slightly lustrous grey scales ; submarginal line irregularly waved, whitish, preceded by a thick black shade, followed by a row of yellowish blotches on veins ; between veins 3 and 4 a pale patch in the dark marginal area ; marginal black spots between the veins, connected by a fine black festooned line ; fringe pale grey mottled with darker.

Hindwing : dark smoky grey, towards inner and hindmargins whitish with black speckling ; a straight thick black median shade to just beyond the black cell-spot ; a black shade preceding the pale submarginal line, which is followed by a yellowish shade.

Underside dull cinereous ; the cell-spots and marginal borders dull blackish.

Head and thorax black ; abdomen pale grey, with broad black dorsal patches, the basal segment whitish ; legs black, spotted with whitish.

Expanse of wings : 40 mm.

1 ♀ from Sajua, Angola, June 1901 (Pemberton).

The single specimen, which is as good as bred, has the abdomen very stout and the antennae finely bipectinated.

Subfamily SEMIOTHISINAE.

42. **Gonodela interlineata** spec. nov.

Forewing : whitish, tinged with luteous and finely speckled with grey; costa yellower, with short brown striae; first and second lines very indistinct, curved below costa and oblique inwards; first from one-fourth of costa to near base of inner margin, second from beyond middle of costa, incurved beneath the linear brown cell-mark, to one-third of inner margin; outer line from costa a little beyond median, widely curved then straight, parallel to hindmargin, to two-thirds of inner margin, brown and distinct in its upper course; this line is crossed by an equally distinct straight brown line from inner margin at three-fifths, angled at vein 6 and retracted to the same point on costa as the curved line; marginal area more luteous tinged, with an obscure lunulate-dentate cloudy shade following the outer line, the lunules between veins 2 and 4 darker; slight dark marginal spots between veins; fringe pale grey.

Hindwing : with median and outer lines brown, thick and distinct; the median straight, but forming a semicircle inwardly in cell round the black cell-spot; the outer curved, followed by a waved luteous grey cloud.

Underside with all markings plainer, the speckling brown; lines brown, the submarginal lunulate-dentate shade well marked, the space between it and outer line luteous; a fine brown marginal line; the veins yellowish.

Head, thorax, and abdomen pale like wings; face with a broad brown bar across middle; palpi pale, dusted with brown.

Expanse of wings: 40 mm.

1 ♂ from N. Bailundu, Angola, October 1901 (Pemberton).

Probably near *M. rhabdophora* Holland. The fovea of forewing is but slightly marked.

43. **Gonodela leighi** spec. nov.

Forewing : smooth fawn-grey, becoming darker, somewhat lilac-grey, beyond outer line, thickly dusted with fuscous atoms; the lines obscure and slender, all three oblique from costa, and there, especially the median, better marked; first at one-fifth, angled in cell; median, before middle, bent on vein 6; outer acutely angled on vein 6, the angle marked by black scales, then incurved and again angled, but more slightly, between veins 3 and 4, thence straight; the three lines equidistant from each other on inner margin; submarginal line faintly paler, preceded by a darker shade, which below costa forms three chestnut-brown lunules, and another less conspicuous between 3 and 4; no cell-spot or marginal spots; fringe concolorous.

Hindwing : similar, without basal line and brown spots in marginal area; cell-spot black.

Underside white, brown-speckled; the veins and costa of forewing yellowish; a dark chestnut-brown submarginal fascia, reaching margin above vein 4 and containing a white spot between veins 6 and 7.

Head, thorax, and abdomen grey like wings; abdomen with pairs of black spots.

Expanse of wings: 30 mm.

1 ♀ from Durban, Natal (G. F. Leigh).

Named in honour of the collector; the species seems distinct from *amandata* Wlk.

44. **Gonodela transvisata** spec. nov.

Forewing: pale stone-grey, semi-transparent, finely dusted with darker atoms; the basal and median lines very obscure, more oblique than usual; outer line fine, brown, from three-fourths of costa, below which it is curved straight to three-fifths of inner margin: the area beyond rather browner grey; marginal spots minute, black; fringe pale grey; cell-spot black, distinct; costa yellowish, with fine dark striae.

Hindwing: similar, but the median line straight and plain.

Underside whiter; outer line in both wings followed by an irregularly waved brown line, coincident towards costa but divergent downwards.

Face, palpi, and vertex dull brown; fillet whitish; thorax lilac-grey; abdomen whiter.

Expanse of wings: 39 mm.

2 ♂♂ from N. Bailundu, Angola, September 1901, and Libollo, Angola, July 1901 (Pemberton). The fovea of forewing is large, the submedian vein being bent down below it; hindmargin of hindwing bluntly prominent at middle.

45. **Semiothisa natalensis** spec. nov.

Forewing: dingy whitish, speckled with olive ochreous; the costa with fine dark striae, and brown spots at the commencement of the lines; the lines ochreous; first close to base, indistinct; second before middle, vertical and partially double, touching a slight dark cell-spot; outer line at two-thirds, oblique outwards to vein 6, then vertical, slightly waved and double, with four blackish spots, two above and two below vein 4; a brown triangle on costa beyond the line and a brown erect blotch on inner margin; two or three dark brown costal spots before apex; a pale brownish triangular cloud before the incision; slight dark marginal dashes; fringe pale, except along incision, where it is blackish.

Hindwing: without first line; cell-spot round and black, within a semicircle of the median line; outer line with no black spots, but followed by a greyish ochreous shade: marginal festoon more evident; fringe wholly pale.

Underside whiter, with brown speckling and brown lines, the outer followed by a brown band.

Head, thorax, and abdomen like wings; face and palpi somewhat darker.

Expanse of wings: 27 mm.

1 ♂ from Durban, Natal.

Allied to *S. notata*.

Subfamily ENNOMINAE.

46. **Colotois integraria.**

Odontopera integraria Guen., *Phal.* i. p. 166. ♀.

Guenée's ♀ type came from Abyssinia: he calls it "extremely near the preceding species (*erebaria*), but the wings almost completely entire, the dentation scarcely appreciable." *Erebaria* came from S. Africa.

Two examples, both ♂♂, from the foot of the Nieuwveld Mountains, five miles N.W. of Beaufort West (Mrs. Butt), are evidently to be referred to *integraria*; the species, judging from these two examples, must be a variable one. In one

a strong rufous tinge predominates, and the median nervules are rufous; the markings are obscure, and on the underside practically absent: in the other example there is no tinge of rufous, the markings are stronger, and underneath quite clear: those of the hindwing being a round black cell-spot, a dotted outer line, and a dark submarginal shade. In this specimen the wings above have distinct black marginal dots, which are absent in the redder example.

47. **Hyposidra smithi** spec. nov.

Forewing: drab, speckled with black, the basal and marginal areas tinged with pale brownish: costa with short dark streaks; the lines blackish, more or less interrupted, but marked by spots on the veins; first at one-fourth, curved, preceded by a brownish shade; outer line at three-fourths, sinuous, incurved from vein 5 to 3, followed by a slight brown shade; a diffuse brownish median shade, variable in intensity; submarginal line paler, very obscure, but indicated by black marks preceding it, of which two, one obliquely under the other, below costa are conspicuous: two dark-filled lunules beyond the cell, and two above inner margin are also visible; fringe concolorous: cell-spot faint.

Hindwing: with the outer line fairly distinct, lunulate-dentate; median line and cell-spot obscure; submarginal line variable, indicated by the preceding shade.

Underside paler, with the cell-spots and markings present, but generally indistinct.

Vertex, thorax, and abdomen concolorous with wings; face, palpi, and antennae dark brown; tarsi fuscous, with paler joints.

Expanse of wings: 40 mm.

3 ♂♂ from Bopoto, Upper Congo, June 1901 (Rev. K. Smith).

Forewing subfalcate, with sinuous hindmargin without excision; hindmargin of hindwing crenulate, especially in upper half, slightly toothed at vein 4.

This species is named in honour of the collector.

Subfamily PROSOPOLOPHINAE.

Genus **Axiodes** Warr.

Axia ? Feld., *Reise Nor.* t. 129, fig. 10.
Axiodes Warr., *Nov. Zool.* i. p. 465.

The neuration of this genus was not correctly stated in the original description; vein 9 of the forewing is missing; 7 and 8 are stalked from before end of cell; 10 and 11 are stalked, 10 subsequently closely approximating to 7, 8, but not anastomosing; the subcostal and median veins are both bent inwards towards the end of cell, and vein 3 rises well before the end of cell. The pectus, head, and thorax are all densely hairy.

48. **Axiodes ennomaria** spec. nov.

Forewing: pale fawn-colour, pink-tinged, with slightly darker transverse striae; costal area greyer: the two lines darker; first from one-fourth of costa oblique outwards to median vein, there angled and oblique inwards to nearly one-third of inner margin, with a slight bend above vein 1; internally it is faintly edged with paler;

outer line from a little before apex, irregularly sinuous and oblique to two-thirds of inner margin, with a whitish external edge; fringe dull reddish, before which the ground colour of the wing is deeper.

Hindwing: tinged with flesh-colour, paler along costa; a faint outer line.

Underside pinkish ochreous, paler along inner margins; the outer line alone marked.

Head, thorax, abdomen above and below, pectus and legs pale ochreous.

Expanse of wings: 38 mm.

2 ♂♂ from the foot of the Nieuwveld Mountains, five miles N.W. of Beaufort West (Mrs. Butt).

Buttia gen. nov.

Forewing: narrow; costa straight; hindmargin rounded.

Hindwing: with the hindmargin and both angles rounded.

Antennae of ♂ bipectinate, the pectinations shortening towards the end; palpi porrect, hairy; head, thorax, pectus, and femora hairy; tongue and frenulum present: hindtibiae with four spurs.

Neuration: forewing, cell longer than half of wing; first median nervule at two-thirds, second shortly before third; radials normal; 7, 8, 9 stalked from before end of cell; 10, 11 separate, 10 anastomosing at a point with 8, 9: hindwing, costal approximated to subcostal for three-fourths of cell, which is more than half as long as wing; veins 3 and 7 from angles of cell.

Type: *Buttia noctuodes* spec. nov.

Named in honour of the collector.

49. **Buttia noctuodes** spec. nov.

Forewing: dull black, with darker dusting; the lines black; first line nearly at middle of wing, bluntly angled outwards above and below median vein; outer line at four-fifths, dentate-lunulate, the teeth on veins 3 and 4 projecting; black marginal spots before the fringe, which is concolorous; cell-spot black, ocelloid.

Hindwing: dull grey, with outer line only; fringe grey.

Underside: forewing blurred cinereous, the costa spotted black and white; outer line darker; fringe marked with paler beyond veins; hindwing whitish, black-speckled; cell-spot and outer line blackish.

Head, thorax, and abdomen dark grey; face somewhat paler.

Expanse of wings: 34 mm.

1 ♂ from the foot of the Nieuwveld Mts., 5 miles N.W. of Beaufort West (Mrs. Butt).

The species is remarkably noctuid in appearance, reminding one of a dark *Epunda*.

50. **Euomoea carneata** spec. nov.

Forewing: pale brick-red, coarsely scaled on a paler ground, slightly intermixed with grey; a grey-brown outer line from costa just before apex to two-thirds of inner margin, slightly bent above vein 4; a very faint cell-spot; fringe worn.

Hindwing: whitish, dusted with reddish and grey towards hindmargin.

Underside whitish, thickly and coarsely speckled with red-brown; a diffuse curved outer line on both wings in costal half. Head, thorax, and abdomen pale tinged with flesh-colour.

Expanse of wings: 33 mm.

1 ♀ from the foot of the Nieuwveld Mts., 5 miles N.W. of Beaufort West (Mrs. Butt).

In the original diagnosis of the genus *Euomoea*, *Nov. Zool.* iv., p. 124 (1897), vein 10 of forewings was said to anastomose and become coincident with the stalk of 8, 9; it anastomoses only, without becoming coincident; veins 8, 9 separate only close before costa at apex; a fact which was overlooked, and hence the error. The ♀ proves to have shortly pectinated antennae.

51. **Exelis extorris** spec. nov.

Forewing: ashy-grey, faintly rufous-tinged, slightly speckled with black; lines blackish, very obscure, except on costa and inner margin; first curved at one-fourth; median a little before middle, oblique outward to an obscure dark cell-spot, then inwards to just before middle of inner margin; outer line at three-fourths, below 6 sharply dentate and marked with black spots on veins; a faint submarginal shade starting from a dark costal blotch; a row of black marginal spots; fringe concolorous.

Hindwing: with antemedian, dentate postmedian, and faint submarginal shades, plainest on inner margin; cell-spot black, large and distinct.

Underside with large black cell-spots, and the median and outer lines marked mainly by black spots on each margin.

Thorax and abdomen like wings: vertex, antennal shaft, and shoulders paler grey; face and palpi dark brown.

Expanse of wings: 46 mm.

1 ♂, 1 ♀ from Durban, Natal (G. F. Leigh).

I leave this species for the present in the American genus *Exelis* Guen., with which it agrees in the main; veins 10, 11 are long-stalked, not coincident throughout.

NEW *THYRIDIDAE* AND *GEOMETRIDAE* FROM THE ORIENTAL REGIONS.

By W. WARREN, M.A., F.E.S.

Family *THYRIDIDAE*.

1. **Banisia salmo** spec. nov.

Forewing: deep flesh-colour with a brownish tinge, especially towards base; marked by a number of fine transverse striae between the veins, which are blacker and more distinct along inner and outer margins; fringe concolorous.

Hindwing: similar, with a large brown discal spot; inner margin whitish; fringe concolorous.

Underside paler, especially in the hindwing: the fine dark striae being intermixed with diffuse thicker reddish markings.

Head, thorax, and abdomen like wings; abdomen beneath like hindwing.

Expanse of wings: 33 mm.

1 ♀ from Upper Baram district, Sarawak (C. Hose).

From the description this must be like *Hypolamprus rupina* Swinh., which, however, has the discal spot in the forewing.

2. **Morova? innotata** spec. nov.

Forewing: deep flesh-colour, with traces of dark spots between the veins: costal edge paler, with brown spots; fringe in basal half brown-black, in apical half pinky white, except at apex and from vein 3 to 5, where, like the base, it is brown-black.

Hindwing: similar, the fringe mottled with brown at apex and vein 5; fringe of abdominal margin pinkish ochreous.

Underside greyer; costa of forewing pink; along the cell and beyond it, below the median vein and vein 2, and between the basal parts of veins 2, 3, 4, 5, is a collection of deep and bright vinous scales, enclosing small round patches of the grey ground-colour; fringe as above; hindwing with the vinous spots more scattered, and limited to the basal area and the costa.

Face, palpi, and vertex vinous red; thorax and abdomen like wings; foretarsi blackish red, with pale rings at the joints.

Expanse of wings: ♂ 22 mm.; ♀ 25—28 mm.

1 ♂, 2 ♀♀, from Townsville, Queensland (Dodd).

I cannot find any description of this insect, at all events among the *Thyridide*. In the *Trans. Ent. Soc.* 1886, p. 216, Meyrick, referring to a ♂ of *Morova subfasciata* Wlk. from Fiji, as compared with ♀♀ from New Zealand, says that veins 8 and 9 of forewing are not stalked.

Hampson in his diagnosis of Morova *Pr. Z. S.* 1897, p. 633, says, "8, 9 of forewing stalked; tibiae smoothly scaled." In the present species veins 8, 9, are separate as in the Fiji insect, in both sexes, and the tibiae are roughly scaled.

In other points they agree well enough with typical *Morova*.

3. **Striglina divisata** spec. nov.

Forewing : ochreous, suffused at base, along costa, and beyond the outer line with brownish ; with thick black-brown short transverse marks between the veins ; a large somewhat irregularly edged blackish cell-spot ; a square blackish spot before hindmargin between veins 6 and 7, formed by the union of two streaks, sometimes separate ; a blackish oblique line from just beyond middle of inner margin running to the inner of the two submarginal spots, intensified by the brown suffusion beyond it ; a row of distinct black marginal dashes ; fringe ochreous (worn).

Hindwing : with the line straight just before middle ; the transverse streaks swollen into spots so as to suggest a submarginal line, the spots on the folds being chiefly conspicuous.

Underside rather paler.

Head, thorax, and abdomen brownish ochreous.

Expanse of wings : 26 mm.

4 ♂♂ from Bunguran, Natuna Islands, July—October 1894 (C. Hose).

Family *GEOMETRIDAE*.

Subfamily OENOCHROMINAE.

4. **Alex aurantiata** spec. nov.

Forewing : yellow, the basal, costal, and hindmarginal areas slightly deeper-tinged and more or less thickly sprinkled with dark olive-grey specks and striae, the paler inner portion of the wing being generally more sparsely speckled, and sometimes quite clear ; a large round black cell-spot ; an oblique red-brown line, sometimes all but obsolete, from below apex to inner margin beyond middle, thickening downwards ; fringe dark iron-grey, yellow at apex and anal angle.

Hindwing : with the line, from vein 6 thicker, antemedian, sometimes with indications of a dark cell-spot ; a submarginal line marked by black spots, of varying size and shape, between the veins ; fringe yellow ; costal area above subcostal vein paler yellow and without speckles.

Underside deeper yellow, the speckles coarser and blacker ; a strongly marked zigzag blackish submarginal shade broadening to vein 1, and continued across hindwing as two divergent diffuse lines, the outer one dentate ; cell-spots black ; black marginal lunules on each wing ; the fringe of forewing black, of hindwing deep yellow.

Vertex, forehead, and palpi velvety black, second segment of palpi beneath deep yellow ; thorax and abdomen yellow ; the shoulders and base of patagia tinged with dull fulvous ; abdomen beneath and femora yellow ; fore and middle legs blackish externally, red internally ; hind femora red externally, the tarsi fuscous ; the spurs fuscous with pale tips.

Expanse of wings : 50 mm.

2 ♂♂, 1 ♀, from Obi Major (Waterstradt).

The antennae of the ♂ with pedicellate fascicles of cilia, surmounted by a long forward-curved claw-shaped bristle.

5. **Arhodia modesta** spec. nov.

Forewing: stone-grey, with slight darker speckling; costa with a few black dots; lines hardly marked; first from one-fourth of costa forming a dark smear outwards and marked by a slight dark dot on median and submedian veins; outer line at two-thirds indicated only by a slight costal shade and very faint vein-dots; a faint submarginal costal shade; cell-mark cloudy, grey; fringe slightly brown-tinged, darker beyond veins, the tips whitish.

Hindwing: with inner margin chalk-white, spotted with chocolate brown and with the commencement of two lines beyond middle, both of which soon become obsolete; cell-spot slight, brownish; fringe faintly darker.

Underside paler, especially along inner and hindmargin of forewing; cell-spot brown, round; a purplish brown roundish blotch between veins 2 and 4, and some brown scales along median vein; some slight dark marks along the ochreous costa; hindwing with brown speckling along costa; the white blotch of inner margin with its brown markings distinct; cell-spot brown.

Palpi and legs reddish dusted with pale; face above reddish with some pale scales, ochreous below; thorax and abdomen like wings; vertex paler.

Expanse of wings: 36 mm.

1 ♂ from Townsville, Queensland (Dodd).

I am inclined to think that the ♀ referred by me to *Oenochroma simplex* (*Nov. Zool.* x. p. 261) really belongs to this species.

Subfamily ORTHOSTIXINAE.

6. **Celerena substigmaria** spec. nov.

Forewing: with the basal half of wing except a costal streak yellow; apical half black, the inner edge diffuse and irregular; from costa beyond two-thirds a yellow elongated transverse blotch runs to submedian fold, its inner edge straight, its outer irregularly sinuous; fringe blackish.

Hindwing: yellow, with broad hindmarginal border, starting from two-thirds of costa, its inner edge bent on vein 5.

Underside of forewing with only the basal third yellow; the yellow transverse blotch much narrower, hardly reaching vein 2 and not touching costa; hindwing with the marginal border starting from before middle of costa and with a large cloudy blackish cell-spot.

Palpi and shoulders smoky black; head, thorax, and abdomen yellow; pectus and hindlegs yellow; fore and middle tibiae and tarsi blackish.

Expanse of wings: 60 mm.

1 ♂ from Obi Major (Waterstradt) (type); also from Manovolka.

Differs from *proxima* Wlk. in having a transverse blotch from costa instead of an oval blotch before apex.

Subfamily DYSPHANIINAE.

7. **Dysphania chrysocraspedata** spec. nov.

Like *D. aurilimbata* Moore, but differing as follows. The abdomen above is pale bluish white, belted with black, with no yellow at base as described in *aurilimbata*; the legs are pale blue, only the femora, like the pectus and underside

of abdomen, being yellow. The yellow border of hindwing above is more than half filled up along the margin with elongated lunulate blotches of black between the black veins, which on the underside are much reduced, and form only spots in the anal half of wing; the inner margin of hindwing, like its base, is whitish blue, not yellow, as in *aurilimbata*. The hindmargin of hindwing is bluntly but decidedly angled at middle. In the forewing the lowest dark purple basal streak runs up to submedian fold, where it touches the extremity of the oblique streak from costa, and then curves down and joins the lowest blotch of the submarginal fascia before anal angle; all the purple markings of forewing, as in *aurilimbata*, are broad and well developed.

Expanse of wings: 82 mm.

1 ♂ from the Battak Mountains, N.E. Sumatra (Dr. Martin).

8. **Dysphania deflavata** spec. nov.

This Sumatran insect differs from all the forms referred to *malayanus* Guér. and its allies by the entire absence of yellow scaling on the wings, both above and below, except a small patch on the underside of hindwing above anal angle, the yellow of the pectus, femora, and underside of abdomen being likewise reduced. The hindmargin of hindwing is, as in the last species, bluntly elbowed at middle; the sinuous postmedian dark fascia is much narrower, in the hindwing, in particular, being reduced to a mere sinuous belt. In the forewing the purple line from base of inner margin is faint, and joins on vein 2 the oblique line from costa, but there is no dark line from base either along costa or median vein; neither is there any dark purple line at the extreme base of hindwing. The abdomen is dull cream-colour, with faint brownish belts, the anal segment brownish yellow.

Expanse of wings: 78 mm.

1 ♂ from the Upper Palembang district, Sumatra (Völcker).

Generally speaking, Sumatran forms appear to differ intrinsically from those of other islands.

Subfamily GEOMETRINAE.

9. **Metallochlora circumscripta** spec. nov.

Forewing: apple-green; costa flesh-coloured ochreous, with a few minute black specks; an obscure paler green submarginal line, apparently curved inwards towards costa, and traces of a curved inner line; cell-spot ferruginous, with black scales at middle; a pale whitish yellow ribbon-like marginal band; the margin with slight lunular marks of dark brown scales between veins; fringe pale flesh-colour.

Hindwing: similar.

Underside paler green, with the pale marginal line showing through; forewing with costa ochreous, speckled with black, and a small brownish blotch at apex.

Face and palpi externally red-brown; vertex dull greenish; thorax and base of abdomen green; rest of abdomen yellowish green, the dorsum with five metallic bronzy red-brown plates.

Expanse of wings: 22 mm.

1 ♂ from Isabel Island, Solomons, June—July 1901 (A. S. Meek).

This is, of course, closely related to *M. proximata* Warr. from Tugela Island; the marginal markings will distinguish the two forms.

Subfamily STERRHINAE.

10. **Perixera impudens** spec. nov.

Forewing: dull ochreous, densely fuscous-speckled; lines blackish; first at one-fourth, forming two large acute angulations, one in cell, the other on submedian fold; a blackish annular cell-spot, followed by a thick median shade, outcurved above median vein; outer line at three-fourths, outcurved between veins 7 and 2, the extremities vertical, darker marked on the veins; submarginal line itself obscure, but preceded by a dark lunular shade, often conspicuous above; a row of black marginal dashes; fringe pale, chequered with grey.

Hindwing: with similar markings; the basal line curved, not angled.

Underside shining, dull grey, with cell-spots and outer lines marked.

Face and palpi brown; vertex clear ochreous grey; thorax and abdomen grey-speckled.

Expanse of wings: 17 mm.

2 ♂♂, 3 ♀♀, from Gardner Island, Galápagos Islands (R. H. Beck).

Quite unlike typical *Perixera* in appearance.

11. **Perixera? longidiscata** spec. nov.

Forewing: greyish ochreous, with a slight greenish tinge and very faint dark speckling; the inner line, curved, at one-fourth, the median shade, the outer line, and the two submarginal shades all faintly darker; the dots on the first and outer lines very minute; space between median shade and outer line slightly paler than rest of wing, forming a pale band; cell-spot extending along the discocellular, narrow and grey, with darker edges; marginal dots minute; fringe concolorous.

Hindwing: similar.

Underside paler, unspeckled; the markings shown faintly in forewing only.

Head, thorax, and abdomen like wings; top of face and upper edge of palpi with a few reddish scales.

Expanse of wings: 26 mm.

1 ♀ from Townsville, Queensland.

It is, of course, impossible to locate this species exactly without seeing the ♂. The palpi are unusually long and slender. In appearance the insect reminds one of *Emmesura illepidaria* Guen.; the peculiar cell-marks will serve to distinguish it.

12. **Ptychopoda interalbulata** spec. nov.

Forewing: buff, crossed by three sinuous, somewhat silvery, white bands: the first band at one-third, broad; the second just beyond middle, narrow; the third submarginal; the first is preceded and the second followed by a deeper buff shade; the second band contains a large buff cell-spot; the submarginal band is deeply insinuate beyond cell; the central parts of the buff areas are somewhat powdered with white, the marginal area especially so; fringe worn.

Hindwing: white, apparently without markings; fringe white.

Underside glossy white, the dark parts of forewing showing through.

Head and thorax buff; fillet whitish; abdomen white, like hindwing.

Expanse of wings: 18 mm.

1 ♀ from Condon, N.W. Australia, August 1901 (Tunney).

This species is not allied to any that I know of. The wings are elongate, the apex of forewing pointed and the hindmargin oblique, hardly curved.

13. **Ptychopoda muricolor** spec. nov.

♂. *Forewing:* pale mouse-colour, slightly darker along the costa, with scarcely any visible markings; a very fine pale curved outer line from two-thirds of costa to three-fourths of inner margin, and a waved similar submarginal line; fringe concolorous.

Hindwing: slightly paler, with similar markings.

Underside pale smoky grey, without markings.

Face, palpi, and collar black-brown; thorax and abdomen like wings; vertex pale grey.

Expanse of wings: 17 mm.

1 ♂, 1 ♀, from Tonkin, Montes Manson, April, May, 2000—3000 ft. (Fruhstorfer).

The ♀ is much worn, but shows distinct dark cell-spots, which are not visible in the ♂.

Subfamily HYDRIOMENINAE.

14. **Gonanticlea subpilosa** spec. nov.

Forewing: dull purple-brown, the markings deep velvety brown; the costal edge and edges of all the markings picked out with pale ochreous; basal patch with the edge twice slightly outcurved; central fascia formed by two broad bands, coalescent laterally between the median and vein 1, the outer band interrupted between 4 and 6; the outer edge of this band is bent on vein 6, and followed by a dull purplish grey narrower band; submarginal line zigzag, preceded by a slightly paler tinge; an oblique velvety blotch from apex formed of two lunules; a dark brown marginal line; fringe brown.

Hindwing: uniform dull purplish brown.

Underside paler, fawn-colour, somewhat glossy; costa of forewing striated with darker; basal two-thirds, except costal area, clothed with a bed of furry hair; hindwing with large brown cell-spot and brown curved postmedian line, marked with darker spots on the veins.

Head, thorax, and abdomen fawn-colour; shoulders and patagia darker; palpi paler, with a fulvous tinge.

Expanse of wings: 37 mm.

1 ♂ from Batjan, March 1892 (W. Doherty).

Paracomucha gen. nov.

Apparently a development of *Entephria* Hüb. (*Glaucopteryx*).

♂. *Forewing:* ample; costa curved at base and towards apex; hindmargin curved.

Hindwing: with rounded apex and well-rounded hindmargin; abdominal margin thickened and contorted, heavily fringed with hair, the submedian interval before it furrowed and containing dense rows of hairs.

Anal segments of abdomen shaggy, with greatly developed tufts of hair; palpi porrect, short and thick, terminal segment minute; antennae bluntly subserrate beneath, with a pair of sessile tufts of cilia from each side of each segment; tongue and frenulum present; hindtibiae with four spurs.

Neuration: forewing, cell less than half the length of wing; discocellular vertical above, oblique below; first median nervule at about one-half, second close before third; radials normal; 7, 8, 9 stalked from close before end; 10 and 11 from cell, 10 anastomosing with 11 and again with 8, 9, forming a double areole: hindwing, costal anastomosing with subcostal nearly to end of cell, 6, 7 stalked.

Type: *Paracomucha chalybearia* Moore (*Cidaria*).

Subfamily TRICHOPTERYGINAE.

15. **Cryptoloba dentifascia** spec. nov.

Forewing: pale ochreous, washed with yellowish, in the ♀ sometimes with flesh-colour, finely speckled with dark atoms; crossed by two vertical, but flexuous, olive-brown bands, at one-third and two-thirds; the first roundly bent outwards below the median and angled inwards on submedian fold; the second broadened below middle and forming three outward teeth on veins 2, 3, 4, more acute and prominent in the ♂ than in the ♀; both bands are enlarged on costa and are interruptedly edged with blackish; a submarginal dark shade, and dark oblique subapical streak; fringe yellow, with dark grey mottling beyond veins; a slight cell-spot.

Hindwing: coarsely dappled with grey, with the outer band marked in grey, mainly in lower half of wing; the inner band indicated.

Underside with the bands and speckling dark grey.

Head, thorax, and abdomen ochreous, grey speckled.

Expanse of wings: ♂, 22 mm.; ♀, 20 mm.

Several of both sexes from the Palnis Hills.

Resembles *bifasciata* Hmpsn., but that species has the hindwings dark with pale bands.

Subfamily BRACCINAE.

16. **Xanthomima isabellina** spec. nov.

The form occurring in Isabel Island is intermediate between *disrupta* Warr. from Alu, and *partita* from Guadalcanar. It agrees with the latter in having all the black markings thick, and the yellow areas restricted; but the antemedian yellow blotch is much narrower than in *partita*, roughly semi-elliptical in shape, while the outer blotch is larger and as in *disrupta* reaches almost to costa; in the marginal area a macular bluish shade is present, forming a yellow blotch between veins 3 and 4. In the hindwing this yellow blotch alone is present, without the bluish shade. In one example a large black cell-spot is visible before the cross-bar of the hindwing.

2 ♂♂, Isabel Island, June—July 1902 (A. S. Meek).

Subfamily ASCOTINAE.

17. **Elphos picaria** spec. nov.

Forewing: white, thickly mottled with black granular spots; first line double, the centre white, the outer arm thick and black, outcurved above and below median; a diffuse smoky black elongate blotch from middle of costa along the discocellular to vein 4, the discocellular itself in the centre remaining paler; a strong black lunulate-dentate outer line edged with white, followed by a smoky black shade, interrupted below vein 3 and marked with a black streak along submedian fold (submarginal line showing white and zigzag through the blackish apical area).

Hindwing: with a cloudy black cell-spot; the outer and submarginal lines both much broken and dislocated; a slight smoky shade at apex; thick black lunules along hindmargin interrupted by white at the veins; fringe white.

Underside with the mottlings more confluent, the lines much broken; cell-spots black; a broad blackish submarginal fascia extended to margin beyond cell.

Head and thorax smoky grey; palpi paler; abdomen whitish grey, with the segments marked darker along dorsum.

Expanse of wings: 78 mm.

1 ♀ from Sawangan, North Celebes.

Entirely without any ochreous or olive tints, simply black and white.

18. **Ophthalmodes albata** spec. nov.

Forewing: white, speckled with olive-grey; the lines and shades olive-fuscous; first line at one-fourth, blackish, twice curved above median, then retracted inwards and obsolescent, preceded by a slight smoky cloud; the whole basal area within it slightly greenish tinged; a similar median line, likewise obsolescent below middle; cell-mark large, crescentic, with dark edges; outer line at two-thirds, concisely dentate-lunulate, followed by a deep olive-fuscous shade, which fills up the lunules externally, leaving a narrow paler line with long teeth along the veins; this line and shade are interrupted by the pale ground-colour only between veins 1 and 2; submarginal line concisely zigzag, preceded and followed by darker shades, the whole marginal space beyond outer line being smoky olive-fuscous, except along margin below vein 4 and along submedian interval; a row of distinct dark marginal lunules; fringe olive-grey, beyond the veins mottled with paler.

Hindwing: similar, but the whole base white, without inner line; the space beyond outer line remaining whitish; the double lunule beyond cell in the postmedian shade large and conspicuous.

Underside dull white; forewing with apical third black; hindwing with a subapical black band from costa to vein 4; both wings with black cell-spots, that of forewing large.

Palpi olive-fuscous, edged with whitish; face olive-fuscous, paler above and below; vertex, thorax, and abdomen whitish sprinkled with olive-grey, the abdomen on basal segments with pairs of grey spots; abdomen beneath and legs white; antennae dark fuscous.

Expanse of wings: 56 mm.

1 ♂ from the Upper Palembang district, Sumatra (Völcker).

Nearest to *exemptaria* Wlk. and *elararia* Wlk., but quite distinct, especially on the underside.

Uliura gen. nov.

♂. *Forewing:* elongate; costa straight, except at apex, which is blunt; hindmargin oblique, scarcely curved, crenulate.

Hindwing: with curved and crenulate hindmargin.

Abdomen hairy beneath, as in *Gasterocome* Warr.; anal sheaths largely developed and hairy; hindfemur hairy, its lower end with a tuft of hairs from each side; hindtibia swollen, concealing a pencil of hair; antennae strongly bipectinate nearly to the tips; palpi porrect, short, rough-haired, terminal segment invisible; frenulum well developed; tongue absent (? broken off), no fovea.

Neuration: forewing, cell half as long as wing; discocellular vertical above, oblique below; first median nervule a little beyond middle; second close before third; radials normal; 7, 8, 9, stalked; 10 from cell; 11 out of 12; hindwing, costal and subcostal closely approximated for half of cell; 3 and 7 just before end of cell; vein 2 at three-fourths.

Type: *Uliura pallidimargo* spec. nov.

The genus is a development of *Poecilalcis* Warr.

19. **Uliura pallidimargo** spec. nov.

Forewing: ochreous, covered with confluent olive-brown strigae, so that the wing appears brownish fuscous; lines blackish; first at one-fourth, slightly curved above and below median vein, preceded by a diffuse dark cloud; outer line from three-fourths of costa to just beyond middle of inner margin, oblique parallel to hindmargin, but forming a sinus inwards between the subcostal vein and vein 6, and a second between veins 1 and 2, followed by a dark shade; cell-spot black, lying in a diffuse median shade which touches outer line on inner margin; submarginal line pale, zigzag, preceded by a dark shade, interrupted below vein 4 by a large quadrate cream-colonred marginal blotch, continued, but narrower and striated with darker to anal angle; a row of marginal black lunules; fringe dark and light fuscous, with pale base; inner margin with a ferruginous tinge near base and before anal angle.

Hindwing: dirty ochreous, with an olive tinge and striated with olive-fuscous; dark antemedian, postmedian, and submarginal lines, all plainest on inner margin, the postmedian dentate-lunulate; marginal line blackish; fringe olive-ochreous.

Underside much paler; the forewing with grey-brown striae and suffusion; the hindwing nearly pure ochreous.

Head and thorax olive-fuscous; palpi the same, dotted with ochreous; abdomen ochreous, the basal segments speckled, the rest blotched with olive-fuscous, the anal tufts and the underside, as well as the legs, ochreous; femoral tufts fuscous; forelegs fuscous, with pale joints.

Expanse of wings: 38 mm.

1 ♂ from Tonkin, Montes Manson, April—May, 2000—3000 ft. (Fruhstorfer).

Subfamily SEMIOTHISINAE.

20. **Hyperythra rubricata** and ab. **decolor** nov.

Hyperythra lutea rubricata, Warr., *Nov. Zool.* v. p. 35.
Hyperythra rubricata Swinh., *Trans. E. S.* 1902, p. 612.

Having seen specimens of both sexes of this insect from Townsville, Queensland, bred by Mr. Dodd, I am satisfied that it is a good species, quite distinct from *ennomaria* Guen.

The ♂♂ are, as a rule, much duller than the ♀♀, reddish grey with an olive tint; the underside generally dull brick-red, sometimes tinged with olive-yellow; the ♀♀, on the other hand, are redder, without the grey tint, beneath deep olive-yellow; the ♀ differs in being olive-drab, without any red tint whatever above, but agreeing with the rest on the underside. In all specimens, ♂ and ♀ alike, the hindmargin is smooth, not crenulated, and the fringe unicolorous throughout; the three transverse lines are generally more or less visible, but never conspicuous. While agreeing with typical *Hyperythra* in having the cell of hindwing only one-fifth as long as wing, and the costa strongly rounded, the ♂ is entirely without the secondary sexual characters of that genus—viz. the basal gland, the smooth costal area, and the pencil of hairs. In this respect it agrees with the species I called *H. simplex* from Sula Besi, which, when further specimens can be compared, will probably be found to be the same insect, although Colonel Swinhoe has sunk it as only "one of the many named forms of *lutea*."

For the pale form without red suffusion, I propose the name ab. *decolor*.

Subfamily PROSOPOLOPHINAE.

21. **Fisera perplexata** Wlk.

Fisera perplexata Wlk., xxi. p. 292, ♂ (1860).
Fisera perplexata Swinh., *Cat. Lep. Het. O. M.* ii. p. 275. Pl. 7, fig. 3 (1900).
Chlenias belidearia Feld., *Reise Nov.* Pl. 124, fig. 9 (1874).
Crionacha belidraria Meyr., *Proc. Linn. Soc. N.S.W.*, 1891, p. 659 (1891).

These species are identical; the insect, according to Meyrick's description of *belidearia*, is variable in the distinctness of the markings. Meyrick overlooked Walker's species and genus altogether, the type not being in the British Museum Collection.

NEW AMERICAN *THYRIDIDAE, URANIIDAE,* AND *GEOMETRIDAE.*

By W. WARREN, M.A., F.E.S.

Family *THYRIDIDAE.*

1. Siculodes figurata spec. nov.

Forewing: chalk-white, covered with dark and light brown transverse lines forming an irregular reticulation; costa at base bronzy fuscous, its edge marked with fine and regular blackish dots; from these descend pairs of brownish lines, which widen out in cell; before the hindmargin from vein 4 to 7 the reticulations are filled up with brownish to form an elongated blotch; marginal line and fringe very pale pinkish, the fringe below apex mottled with grey; an oblique brown line on discocellular.

Hindwing: paler; the transverse striae rufous brown, hardly forming reticulations.

Underside with the striae fewer and thicker, rufous grey in both wings; in the cell and beyond it along the subcostal vein and veins 8, 9 are deep black and metallic scales mixed on a pale rufous subcostal streak; costal edge with black dots as above. Head, shoulders, and base of patagia bronzy fuscous; rest of patagia, thorax, and abdomen white.

Expanse of wings: ♂ 22 mm.; ♀ 26—30 mm.

1 ♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February and November 1902, wet season (Ockenden).

Allied to both *punctum* Feld. and *rufifimbria* Warr., but differing in certain points from both.

2. Siculodes lacteguttata spec. nov.

Forewing: semi-transparent, glossy iridescent white, traversed by numerous irregular grey-green sinuous interlacing lines, by the coalescence of which the whole surface is reduced to a closely-packed congeries of roundish white spots of varying size, the larger ones lying on the veins and forming beyond middle a postmedian series of large irregular blotches and a submarginal row of smaller more uniform round ones; costa dark iron-grey with white speckling; marginal line interrupted, dark greenish, swollen into spots at the end of the veins, which partially chequer the white fringe.

Hindwing: similar, slightly whiter.

Underside white with the markings of upperside only showing through; the costal edges and marginal dashes marked in green, and a series of black and white glistening hairs at base and along upper margin of cell of forewing.

Face, palpi, vertex, and thorax iron-grey; apical half of patagia, metathorax, and abdomen white; legs mottled dark grey and white.

Expanse of wings: 52 mm.

1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 8000 ft., April 1902, end of wet season (Ockenden).

Loxiorhiza gen. nov.

♂. Forewing: very long and narrow; costa convex at base and beyond middle, shallowly incurved between; apex prominent, blunt; hindmargin very oblique, sinuous, longer than inner margin; inner margin rather convex; anal angle hardly evident.

Hindwing: triangular; inner margin very short, half as long as outer margin; anal angle rectangular; apical angle acute; costa convex towards base.

Thorax and abdomen stout; head broad, the forehead bulged; antennae quite simple; palpi quite short, not reaching to forehead; tongue slight; frenulum large and strong; legs short and stout, with thick spurs.

Neuration: forewing, cell longer than half of wing, widening much outwardly; discocellular long, oblique outwards parallel to hindmargin, upper angle of cell reaching two-thirds of wing; the cell-membrane puckered and swollen; vein 2 at two-thirds, 3 from end of cell, 4 from discocellular shortly above end, 5 from some way above it, 6, 7, 8, 9 all from upper part of discocellular, 9 being from the upper end; 10 just before end; 11 near base, from one-quarter of cell: hindwing, cell broad at end, discocellular less oblique; vein 7 before end, 6 from end of cell; the rest as in forewing; a fold within inner margin, containing a tuft of hair.

Type: *Loxiorhiza cervinalis* Pag. (*Zeuzerodes*).

The neuration is anomalous: the genus seems quite distinct from *Zeuzerodes*.

Family *URANIIDAE*.

Subfamily EPIPLEMINAE.

3. **Epiplema lucisquamata** spec. nov.

Forewing: purplish brown, with darker striae, thickly dusted with fine bluish scales; the lines darker brown; first from costa at one-fourth, very strongly curved outwards above middle, incurved on submedian fold, to inner margin nearly at middle; outer line from three-fourths of costa oblique inwards to three-fourths of inner margin, with a sinus inwards between vein 4 and the submedian fold; the inner line is edged inwardly, the outer outwardly with a line of blue scales; a brown submarginal line from apex curved parallel to hindmargin, almost angled at vein 5, to hindmargin at vein 3; a dark blotch, sometimes ferruginous tinged, at anal angle; fringe dark.

Hindwing: with the two lines nearly parallel, from about one-fourth and three-fourths, the outer bluntly angled on vein 4; a small black spot, edged with ferruginous scales, below lower tooth; area between veins 1 and 2 blurred, greyish fuscous, the usual scales and lines obsolete.

Underside rust-coloured, with coarse transverse brown striae and towards inner margins more or less tinged with brown; a dark diffuse oblique outer shade in forewing. Face and palpi brown-black; vertex, thorax, and dorsum like wings; rest of abdomen cinereous.

Expanse of wings: 35 mm.

3 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Costa of forewing arched at base and apex; hindmargin at apex obliquely truncate to below vein 7, strongly excised to 4, then oblique; anal angle lobed;

inner margin sinuous. Hindwing with costa sinuous, and truncate apex ; prominent teeth at veins 4 and 7, a slighter tooth at vein 6 ; submedian interval on hindwing with discoloured scaling, the inner margin slightly convolute ; palpi quite short. In coloration strongly resembling *Succoplaca*, but in shape of wing and neuration like *Epiplema*.

4. Gathynia dilacerata.

Erosia dilacerata Guen., *Phal.* ii. p. 37. ♂ ♀.

This species must be referred to the genus *Gathynia*. I have lately seen a ♀ from Huatuxco, Vera Cruz, the structure of which is conclusive. Guenée gave 19 mm. as the expanse of the ♂, adding that the ♀ was somewhat larger. The present example expands 26 mm.

Lophopygia gen. nov.

♂. *Forewing :* with costa straight, curved only at base and before apex ; hindmargin truncate from apex to vein 7, with a slight bidentate projection beyond 7 and 6, then sinuate to the anal angle, which is roundly lobed ; inner margin sinuous.

Hindwing : costa with a deep sinus at middle ; hindmargin truncate from 8 to 7, which is toothed, then sinuous to anal angle, which is roundly lobed ; inner margin slightly truncate above anal angle.

Abdomen with the anal segment greatly prolonged, its base with a dependent lateral tuft of hairs ; hindtibiae swollen, with two pairs of unequal spurs ; antennae thick, faintly subserrate ; palpi porrect, slender, smoothly scaled ; tongue and frenulum present.

Neuration : forewing, cell half of wing, narrower towards extremity, the subcostal and median veins both being somewhat incurved ; vein 2 at three-fourths, 3 close to 4, 5 from upper end of cell, 6, 7 stalked from the same point ; 8, 9 long-stalked, 10, 11 free ; hindwing with 3, 4 stalked ; discocellulars of both wings excessively fine.

Type : *Lophopygia griseata* spec. nov.

In *Lophotosoma*, which also has a pair of praeanal tufts, these tufts are erect, not dependent, and the hindmargin of forewing is toothed at vein 4, with a sinus above.

5. Lophopygia griseata spec. nov.

Forewing : purplish grey, with darker grey clouds, and sparsely dusted with black scales ; lines velvety black, thick ; first from one-third of costa to two-fifths of inner margin, bluntly angled at end of cell ; outer line from two-thirds of costa to three-fourths of inner margin, incurved below middle, marked with black only below vein 2 ; area between the lines darker grey, this hue diffusely produced below the median vein to anal angle ; marginal area paler grey ; fringe ochreous.

Hindwing : with waved antemedian and postmedian slightly darker lines, enclosing a central fascia, along the outer edge of which a diffuse dark cloud runs towards anal angle, which is luteous-tinged ; base whitish.

Underside uniform dull grey, speckled sparsely with black.

Face and palpi velvety black; vertex, thorax, and abdomen grey like wings; internal anal tufts pale ochreous; abdominal tufts grey.

Expanse of wings: 32 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

Neoplema gen. nov.

This genus is exactly like *Epiplema* in shape and neuration of wings, but the antennae in the ♀ (and therefore almost certainly in the ♂ as well) have uniseriate pectinations, the upper edge being merely spinose.

Type: *Neoplema candidata* spec. nov.

6. **Neoplema candidata** spec. nov.

Forewing: white, tinged with lilac-grey, diversified with very numerous dark brown specks and striae; costal edge with short irregular striae; no distinct first line, which seems to be indicated by three small brown spots, one in cell near base, a second below the median, and the third on inner margin; outer line a little beyond the middle, outcurved, formed of distinct lunules between the veins, these lunules being filled in with brown, except that at costa and the one between veins 2 and 3; a submarginal series of dark dots between the veins parallel to hindmargin, the marginal area before the excision brown-tinged; a fine dark marginal line; fringe pale?

Hindwing: similar, but the lunulate line sharply angled in the middle on vein 4; a golden-brown submarginal line, and two black marks below lower tooth.

Underside with stronger and coarser brown speckling; the forewing also dusted with ochreous grey and with the veins ochreous; a darker marginal shade in costal half of each wing.

Face and palpi brown-black; vertex, shoulders, and patagia snow-white; abdomen whitish.

Expanse of wings: 22 mm.

1 ♀ from Inambari, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

Forewing slightly excised between 7 and 4; hindwing toothed at 4 and 7.

7. **Psamathia impunctata** spec. nov.

Like *Ps. laticaudata* Wlk. from Venezuela, but larger; the forewing without the black subapical spot beyond the outer line.

Expanse of wings: 46 to 52 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

8. **Saccoploca? divergens** spec. nov.

Forewing: vinous brown, dusted with bluish white scales, especially along the veins and margins: first line brown, a little darker than the ground-colour, from one-fourth of costa, widely outcurved in middle and bent on the median, to two-fifths of inner margin; outer line deep brown, from three-fifths of inner margin, nearly straight to apex, immediately before which it is shortly retracted

to costa ; this line is really double, the outer arm fine, with a line of bluish white scales between ; above the inner margin between the inner and outer lines is a spot of black scales varied with bluish white, the area between the lines being deeper, especially towards the outer line ; marginal area more thickly sprinkled with bluish white scales, and with a submarginal line indicated by black pale-tipped vein-dashes ; extreme margin and fringe deep brown.

Hindwing : with the two lines close together before the middle ; the rest as in forewing.

Underside of forewing brown striated with black ; the outer line diffuse, black ; the inner margin before it, as far as cell, smoky black ; hindwing greyer towards base, with coarse black striae.

Head, palpi, and forelegs in front black ; thorax and abdomen brown dusted with blue-grey scales ; the shoulders thickly blue-grey.

Expanse of wings : 32 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

Without the ♂ the position of this species is not actually certain ; but it agrees in neuration and all other structural details, as well as in the character of the scaling. Of the two species described, both from ♀♀, in *Nov. Zool.* xi. pp. 5, 6, and doubtfully referred to *Hemioplisis* H. S., one certainly, *alternata*, and probably *metallica* also, should be placed in *Saccoploca*.

9. **Saccoploca sordida** spec. nov.

Forewing : ochreous, speckled and suffused with brown, the costa darker brown, marked by two black-brown oblique streaks, one before, the other beyond the middle, from which two very indistinct transverse lines start ; an inwardly oblique line from apex to above vein 4, then curved outwards to anal angle, marked by black spots between the veins ; the marginal area beyond it browner ; apical area before the oblique line paler, bone-coloured ; fringe ochreous and brown.

Hindwing : with costal third pale, without markings; the two black-brown lines reappear below cell, thickening towards inner margin, which is likewise black ; a diffuse submarginal line, blackish towards anal angle.

Underside pale ochreous, with sparse brown striae ; forewing brown-tinged at base and again along hindmargin.

Face, palpi, and front of forelegs dark brown ; vertex, thorax, and abdomen brownish ochreous ; dorsum marked with black corresponding to the two black lines of wings.

Expanse of wings : 28 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

The tuft of hair in the abdominal fold on hindwing is ochreous like the wing itself.

10. **Syngria candidata** spec. nov.

Forewing : white ; the costal edge with short dark striae ; a thick brownish ochreous vertical mark along discocellular from subcostal vein to vein 2 ; outer line oblique from two-thirds of costa to above vein 7, then vertical and double to vein 4, along which it runs shortly basewards and faint, then again vertical

and double to inner margin at three-fourths; an interrupted submarginal line of striae; marginal line fine, dark; fringe white.

Hindwing: with the lower part of outer line and the submarginal line of streaks; marginal line black, interrupted at the lobe; two round black spots, one marginal in the tooth at the end of vein 3, the other submarginal between veins 2 and 3.

Underside all white.

Head, thorax, and abdomen white; face and palpi black.

Expanse of wings: 37 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

Distinguished from *Melcuba theclaria* Wlk., to which it bears a great resemblance, by the antennae, which are shortly serrate-clavate instead of slenderly bipectinate.

Trotorhombia gen. nov.

Forewing: costa well arched, especially towards apex, which is depressed; hindmargin shortly vertical from vein 8 to 7, then excised to vein 4, thence straight and oblique; inner margin straight; anal angle well marked.

Hindwing: with apex rectangular and hindmargin straight to vein 4, then forming an oblong projection from 4 to 3, the lower end of which is produced into a tooth pointing inwards; the margin twice excavated to anal angle, forming another tooth between the excavations on vein 1; inner margin about half as long as hindmargin, the whole wing roughly rhomboid.

Antennae of ♂ unipectinate, the pectinations thickened at their apex, abbreviated at each end of the shaft; palpi porrect, the third joint spatulate, smooth-scaled and distinct; tongue small; frenulum very fine; hindtibia with four unequal spurs.

Neuration: forewing, cell less than half of wing; discocellular vertical, but oblique below; vein 2 at two-thirds, 3 close before 4; 5 from top end of cell, whence also the stem of 6, 7; 8, 9 stalked; 10, 11 free: hindwing with 3, 4 stalked.

Type: *Trotorhombia metachromata* Wlk. (Erosia).

Family *GEOMETRIDAE*.

Subfamily OENOCHROMINAE.

11. **Pycnoneura convergens** spec. nov.

Forewing: shining white; the markings olive-grey; these are all straight and oblique, converging, in direction, towards the apex; a broadish streak at one-fourth, a broader one from middle of inner margin, with a fine line on each side, and two broadish, slightly wavy, submarginal streaks; fringe brown, with black spots at base between veins in upper half of margin; costa brownish in basal half.

Hindwing: with all the lines and streaks thicker and plainer; no marginal spots.

Underside uniform satiny white.

Head dark brown; thorax and abdomen white.

Expanse of wings: 44 mm.

1 ♂ from Oroya, Inambari, 3000 m., April 1901, dry season (Ockenden).

Subfamily MECOCERATINAE.

12. **Hyphedyle subornata** spec. nov.

Forewing: dark brown, along basal half of costa with fine white striae, along inner-marginal half of wing blurred grey with brown-grey striae, tinged with yellowish along median and submedian veins: the deep brown area extending from costa a little before middle to hindmargin above anal angle: just beyond middle of costa is a large cream-white blotch reaching vein 6 and tinged there with brownish, touching a snow-white heart-shaped blotch between veins 5 and 7, above the upper lobe of which is a small round spot also snow-white; fringe brown.

Hindwing: grey, densely striated with darker grey, becoming smoky brownish along hindmargin; cell-spot dark; fringe brown.

Underside of forewing brown with bluish white striae, thickened towards hindmargin and forming a subapical patch; the costal blotch yellower and striated with reddish; the white blotch and spot as above; the veins yellowish brown; the whole inner margin below median vein and vein 3 dead white; fringe brown: hindwing bluish white with brown striations: the veins towards hindmargin yellowish brown; a dark cell-spot; fringe brown.

Head and thorax brown dusted with paler; abdomen cinereous; legs whitish spotted with brown.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

Both the sex and genus of this insect remain doubtful. The antennae are subserrate, with distinct ciliations, but there is no sign of a frenulum or a ♂ retinaculum, and the abdomen appears to be that of a ♀; the neuration is normal. The hindmargin of forewing is bluntly protuberant between veins 5 and 6, with a shallow excavation above to the blunt apex which does not reach as far as the projection, below which the margin is obliquely curved; hindwing with both angles and hindmargin well rounded.

13. **Phellinodes absentimacula** spec. nov.

This species is like *Hedyle lucivittata* Wlk. both in coloration and markings, except that it lacks the large white blotch beyond the cell of the forewing which characterises that species. The hindmargin of forewing also differs, being vertical from apex to middle, not excised and gibbous as in *lucivittata*.

Expanse of wings: 60 mm.

One ♂ from Salidero, N.W. Ecuador, February—March 1901 (Flemming and Miketta).

I have seen only two examples of *lucivittata* besides the type: all three are ♀♀; it is therefore possible that *absentimacula* is the ♂; but I know of no other instance in which the wing-markings of the sexes differ in this group.

14. **Phellinodes albifascia** spec. nov.

Forewing: at base smoky grey, speckled and striated with blackish grey, the ground-colour along costa whitish; this grey area reaches along inner margin to anal angle, along costa to two-fifths only, its outer oblique edge undefined; on the submedian fold at about one-half it contains a small blackish

blotch, followed by a horizontal black streak just below vein 2; the apical space is occupied by a large brown black-speckled blotch, with a bluntly angled or curved black inner edge, running out below vein 6 towards the angle of wing, and also connected by a smaller blotch with a black marginal cloud stretching from vein 3 to above 4: the intermediate space between basal and apical areas white, speckled along its margins and especially along costa and above discocellular with grey; cell-spot thick, black, extending the whole length of the discocellular, touching a grey costal cloud; fringe blackish, interrupted by white above anal angle.

Hindwing: dark smoky grey, deepest along hindmargin, speckled with blackish, and with a dark cell-mark; abdominal margin broadly paler; fringe dark grey.

Underside similar, but hindwing, except along costa, with ground-colour white, and with traces of an irregular submarginal shade.

Thorax and abdomen dark grey; face and vertex whitish.

Expanse of wings: 48 mm.

One ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February 1902, wet season (Ockenden).

The hindmargin of forewing forms a blunt elbow between veins 5 and 7, above and below which it is faintly concave.

Subfamily CYLLOPODINAE.

15. **Campylona brunnea** spec. nov.

Forewing: purplish brown; a semipyriform yellow blotch from base between subcostal and submedian veins, nearly half as long as wing, its outer end oblique, the angles rounded; a transverse yellow blotch beyond it, also oblique, from subcostal vein to below vein 3; costal and subcostal veins yellow from base to middle; fringe brown, pale at apex.

Hindwing: rather deeper yellow, with the costal and hindmargins black, of uniform width to vein 3, then broadened to anal angle.

Underside the same, but only the costal vein yellow in the forewing, not the subcostal; hindwing with a yellow streak at base along the costal black border.

Palpi yellow, externally blackish, the third joint black; antennae black; face yellow; vertex, shoulders, and thorax black with yellow centre; patagia yellow internally, black externally; abdomen yellow with black dorsal and lateral stripes; abdomen beneath white; legs whitish yellow, externally fuscous.

Expanse of wings: 37 mm.

1 ♀ from Maripa, Canra River, June 1901 (Klages).

16. **Darna flammifera** spec. nov.

Forewing: purplish black, the purplish tint varying with the incidence of light; a deep reddish orange area shaped much as in *Darna praelata*; its outer edge starts at nearly two-thirds of costa, runs slightly sinuous to vein 4, and is curved close to margin to vein 2, whence it forms a single convexity to base of vein 1, touching median vein below cell and slightly encroaching above vein 2; costal margin finely black.

Hindwing : purplish black, semidiaphanous except towards apex, which is more densely scaled.

Underside like upper, but the orange area somewhat broader.

Head, thorax, abdomen above and beneath, and legs purplish black, the purplish tints especially strong on the abdomen.

Expanse of wings : 50 mm.

1 ♀ from Limbani, Carabaya, S.E. Peru, 10,000 ft., November 1901, wet season (Ockenden).

17. **Darna praelata** spec. nov.

Close to *Darna volitans* Warr., with which it agrees in coloration ; it differs as follows : the yellow blotch of forewing is differently shaped towards the hindmargin ; in *volitans* the outer edge runs straight from costa to near the end of vein 2, above which it is bluntly angled and runs inwards, forming a wedge-shaped ending to the yellow blotch ; in *praelata* the outer edge starts from costa nearer the apex, running to near the end of vein 4, where it is rectangularly bent to above the end of vein 2 close to hindmargin, whence it forms a long convexity, not reaching median vein, to vein 1 near base, reaching inner margin at base ; the yellow area therefore has a roundly quadrate termination close to margin, instead of a wedge-shaped narrow one some distance before it. Secondly, instead of the pink scales with brown-scaled centre lying in the costal area of hindwing of *volitans*, the central bed in *praelata* is of black scales surrounded by mealy ochreous ones.

Expanse of wings : 44 mm.

1 ♂ from Upper River Toro, La Merced, Peru, 3000 m., August—September 1901 (Simons).

18. **Stenoplastis albifrons** spec. nov.

Forewing : black, with the veins towards base white or sulphur-yellow, becoming deep yellow beyond middle ; a diffuse blotch of white scales beyond cell ; veins 7, 8, 9 forming a tridentate yellow spot ; fringe black.

Hindwing : white, with the hindmargin from before apex to anal angle broadly black ; the costal and abdominal margins narrowly black.

Underside of forewing with the base of costal vein white ; an elongate white blotch from base along submedian interspace half as long as wing ; a large white blotch before apex extending from costal vein to vein 3 ; hindwing as above, but the hindmarginal border narrower, the costa white.

Palpi white above and below, black on each side, the basal joint yellow ; face pure white ; vertex, collar, thorax, and abdomen black ; vertex and collar each with a white middle spot, thorax and abdomen with a white line down the middle ; patagia black with inner edge white ; shoulders with a large yellow lateral spot, one behind each eye ; the pectus yellow ; abdomen beneath white, with a yellow lateral stripe ; legs black and white.

Expanse of wings : 34 mm.

2 ♂♂ from Yungas, Bolivia, 1200 m., November 1901, end of dry season (Simons).

Differs from *S. cingulina* Druce in having only the white spot at end of cell of forewings, and by the white face.

19. **Stenoplastis semimaculata** spec. nov.

Intermediate between *aurantica* Druce and *cingulina* Druce. The cream-white blotch below the median vein only just overspreads the submedian fold instead of reaching to inner margin; beyond the discocellular instead of an oval cream-white blotch there are only a few pale scales or, at most, as in the type, a small round pale spot above vein 5. The rest as in *aurantica*.

1 ♂ from Upper River Toro, La Merced, August—September 1901, 3000 m. (Simons).

SUBFAMILY GEOMETRINAE.

20. **Blechroma confluа** spec. nov.

Forewing: yellowish green; the markings dull lilac-grey, with darker edges; basal patch darkened, with black scales projecting along median vein; a broad antemedian and postmedian fascia, confluent above vein 2, but with small patches of green intermixed, crossed by fine lines of black scales, those of the outer fascia acutely dentate; a large black cell-spot; a macular submarginal line of irregular spots on veins interrupted below an elongate costal mark at apex; a row of marginal lunules; fringe (worn) pale.

Hindwing: with a basal blackish mark; a lilac-grey antemedian band roundly projecting above median vein; a double submarginal band, partially confluent; marginal lunules as in forewing.

Underside whitish, greenish along costa of forewing, the markings showing through; cell-spot of forewing black.

Head, shoulders, and abdomen yellow-green; thorax and basal segment of abdomen lilac-grey, mixed with black scales.

Expanse of wings: 40 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

21. **Blechroma conspersa** spec. nov.

Forewing: pale semi-transparent green, covered with lilac-grey striae; the lines and markings also lilac-grey, shading in certain lights to purplish; basal patch slightly darker, limited by an obscure double curved line; central area slightly darker, inwardly edged by a nearly vertical line, and outwardly by a line forming a quadrate projection beyond cell, then incurved to base of vein 3, thence vertical; cell-spot purplish, placed in a grey patch; an outer line most distinct towards costa, and a submarginal line of grey spots on veins; fringe green, with grey chequering beyond the veins.

Hindwing: with a violet-grey blotch at base, followed by an unstriated band of green, which between veins 4 and 6 projects beyond cell; all the rest of the wing covered with confused violet-grey partially confluent striae; cell-mark dark green.

Underside paler, the dark markings showing through, most clearly along costa of forewing.

Face, palpi, and antennae brown; vertex broadly snow-white; shoulders and patagia green; thorax and abdomen pale ochreous green; metathorax and basal segment of abdomen dark violet-grey.

Expanse of wings : 36 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

22. **Blechroma nigricincta** spec. nov.

Like *B. exertata* Moeschl. from Surinam, with all the darker markings of forewing above middle emphasised with brown-black scales, forming a large black-brown diffuse blotch at base, another at middle of costa, and a third towards apex, all accompanied with smaller scattered spots; but whereas in Moeschler's species the body is said to be all yellow, in the present species the metathorax and two basal segments of abdomen are black-brown, like the base of hindwing. In other respects the species agrees with *exertata*.

Expanse of wings : 38 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March and June 1902, dry season (Ockenden).

23. **Dichorda obliquata** spec. nov.

Forewing : bluish green, with a few brownish speckles in marginal area ; costa whitish, with coarse olive-grey speckling ; first line obscure, whitish, bent below costa, then sinuous inwards to one-third of inner margin ; outer line oblique and straight, white, with its inner edge olive-yellow from costa just before apex to two-thirds of inner margin ; cell-spot small, black ; fringe green.

Hindwing : with the line central, running to two-thirds of inner margin ; a black mark at base.

Underside paler, in the hindwing whitish green ; the lines obscurely whitish ; cell-spots black ; a patch of black scales below middle of cell of both wings.

Palpi white, above greyish olive ; face, vertex, and fillet white, with a few pinkish olive scales ; thorax and abdomen green, the latter whiter on anal segments, white at sides and underneath.

Expanse of wings : 26 mm.

1 ♂ from Huatuxco, Vera Cruz.

24. **Dichorda perpendiculata** spec. nov.

Forewing : bluish green, with darker green striations ; costa white, coarsely and thickly striated with olive-fuscous, more broadly at the base ; the lines straight, white, edged conversely with yellow ; first from before one-third of costa to one-third of inner margin, vertical and straight, except for a slight outward angle on median vein ; outer from costa shortly before apex to beyond two-thirds of inner margin, broader than the inner line, edged inwardly with yellow ; cell-spot black ; fringe pale green, with white basal line ; veins towards margin whitish.

Hindwing : with the outer line running from two-thirds of costa straight to inner margin just above anal angle ; cell-spot black ; no inner line.

Underside paler, with sparse black scales ; the lines faintly pale ; cell-spots black ; hindwing whitish green, with a patch of black scales before the rise of vein 2.

Face and palpi olive grey, white below ; vertex and basal joint of antennae

snow-white; thorax and abdomen green, the latter white at sides and beneath; legs white, the forelegs with black mottlings.

Expanse of wings: 32 mm.

1 ♂ from Huatuxco, Vera Cruz.

The lines of forewing far apart on inner margin.

25. **Lissochlora punctata** spec. nov.

Forewing: apple-green; the fringe yellowish green, with a deep pink spot at apex; cell-spot red-brown, with blackish centre; lines represented by red-brown vein-dots: first at one-third, curved; second from three-fourths of costa to two-thirds of inner margin, parallel to hindmargin; a dark green shade connecting the dots scarcely visible.

Hindwing: without first line.

Underside pale green, the costa of both wings yellowish.

Head, thorax, and abdomen (damaged) all apparently green.

Expanse of wings: 28 mm.

1 ♂ from St. Lucia, West Indies, June 1902 (Branch).

Hindmargin of hindwing slightly bent at middle.

26. **Melochlora albiceps** spec. nov.

Forewing: mealy green; lines deeper green edged by bluish white lines; first obscurely marked, from one-fourth of costa to one-third of inner margin, edged inwardly with paler; outer line from quite two-thirds of inner margin towards apex, before which it becomes obsolete, outwardly edged with paler; a black cell-spot; fringe pale green.

Hindwing: with only one line, central, and clearly marked; cell-spot black.

Underside whitish green, with small cell-spots; hindwing with a blackish blotch from base of vein 2 to inner margin.

Palpi, vertex, thorax, and abdomen green; face and shaft of antennae snow-white, the pectinations blackish.

Expanse of wings: 38 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

The apex of forewing is acute, the hindmargin oblique and straight, not excised below apex, as in typical *Melochlora*. The snow-white face is a remarkable feature.

27. **Oospila restricta** spec. nov.

Forewing: deep sea-green; costa ochreous, speckled with brown; marginal line dark brown, interrupted by large cream-white spots at the vein-ends; a shallow cream-white blotch at anal angle, edged with dark brown; fringe cream-colour, chequered with darker beyond veins; cell-spot dark brown; all the cream-coloured spots are finely edged with red scales.

Hindwing: with the cell-spot white; a lengthened white blotch at apex; the rest as in forewing.

Underside pale green; the forewing flushed with rosy and the costa yellow.

Face and palpi red-brown; vertex and antennae white; collar crimson;

thorax, base, and sides of abdomen green; rest of abdomen ochreous; the sides with red spots; the dorsal segments with flattened red-brown lustrous crests.

Expanse of wings: 28 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

Nearest to *Oospila delacruzi* Dogn., but the white blotches much restricted in size.

28. **Oospila rufiplaga** nov. spec.

Forewing: semi-transparent, dark green, with faintly darker striae; the costal edge reddish ochreous; a round brown-black cell-spot, with a minute pink centre: marginal border with two blotches as in *trilunaria* Guen., but smaller and of different coloration; a small semicircular one from vein 6 to below vein 5, blackish brown with a few pink scales in it; a larger oval blotch at anal angle, reaching to halfway between veins 2 and 3, but narrower laterally than in *trilunaria*, blackish brown, with a round pink space in the upper part above vein 1, the green along its inner edge with a yellowish tint; marginal line finely black; fringe black-brown, chequered narrowly with white between the veins, above vein 1 with pink.

Hindwing: with the blotch at anal angle quite small, and only a slight thickening of the marginal line at apex; cell-spot as in forewing, near lower end of discocellular; a small round shining white spot at the upper end; fringe as in forewing.

Underside whitish, with cell-spots and marginal spots red-brown; costa of forewing yellowish; the large blotch at anal angle of forewing showing through.

Face and palpi dull reddish; fillet and antennal shaft white; the pectinations rufous ochreous; vertex, thorax, and abdomen green, the latter with a pink dorsal stripe, containing five crests, the first three of raised black and metallic scales mixed with pinkish hairs; the last two of pink hairs only; anal tuft white; abdomen below and legs whitish; forelegs rosy-tinged.

Expanse of wings: 40 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

Apparently the Peruvian form of the Brazilian *trilunaria* Guen.

Guenée does not allude to any dorsal crests.

Poecilochlora gen. nov.

Forewing: costa slightly curved; apex bluntly rounded; hindmargin bluntly toothed at vein 4, slightly emarginate from 7 to 4, very oblique and somewhat crenulate below; anal angle well marked; inner margin short.

Hindwing: bluntly toothed at vein 4 and less so at vein 6, excised between; straight and crenulate to anal angle.

Antennae of ♂ of delicate structure, the shaft and pectinations semi-transparent, the pectinations short and stout, strongly ciliated; palpi porrect, roughly scaled, terminal joint pointed; tongue and frenulum present; hindtibia with four spurs.

Neuration: forewing, cell less than half of wing; discocellular concave; first median nervule at three-fourths, second and third short-stalked; lower radial from above middle of discocellular, upper stalked with 7, 8, 9, 10; 11 anastomosing with 12: hindwing with 6, 7 long-stalked, 3, 4 short-stalked.

Type : *Poecilochlora minor* spec. nov.

The insect described by me as *Neocrasis? heterograpta* (*Noë. Zool.* xi. p. 23) must be transferred to this genus.

29. **Poecilochlora minor** spec. nov.

Forewing : pale green, towards hindmargin passing into yellowish, before a thick vinous-red marginal line which is swollen into a shade towards anal angle; costa rosy at base; lines slender, white; first from one-fourth of costa, bent in cell, then straight to one-third of inner margin; outer line from two-thirds of costa straight to two-thirds of inner margin; fringe white, marked with red beyond veins.

Hindwing : with the first line straight, the second slightly curved; nearly the whole marginal half yellowish, and the vinous shade above middle of wing broader.

Underside of forewing green; inner margin whitish; base of costa and a narrow marginal line vinous; of hindwing whitish green, with reddish marginal shade.

Palpi externally red; face itself rubbed, but probably the same; top of face bright fulvous; fillet white; vertex, thorax, and abdomen pale green, the last with some reddish scales on the fifth segment; antennae and legs greenish white; foreleg with knee and pencil of hair of tibia red.

Expanse of wings : 26 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

Distinguished from *P. heterograpta* (*Neocrasis*) by the absence of white scaling between the lines.

30. **Racheospila conflua** spec. nov.

Forewing : yellow-green; the costal edge white; a large rounded red-brown blotch below apex reaching below vein 4, and tingeing the fringe beyond it brown; a flattened spot at anal angle, not reaching above vein 2 and along one-third only of inner margin; fringe except beyond the brown blotches green, marked with brown at the veins; cell-spot round, red-brown, at lower end of discocellular, with a larger, somewhat leaden grey spot above it.

Hindwing : with the round apical red-brown blotch as large as in forewing, that at anal angle much smaller; a small cell-spot; fringe as in forewing.

Underside with the apical and anal blotches of forewing united by a broad submarginal band : cell-spot red-brown; in the hindwing the anal blotch is absent, but the apical blotch is extended towards the angle by a faint submarginal shade.

Face, palpi, thorax, and abdomen red-brown; the dorsum with two white spots; fillet white; vertex, shoulders, and patagia green; abdomen beneath and legs pale green.

Expanse of wings : 35 mm.

1 ♂ from Huancabamba, Cerro de Paseo, Peru (Böttger). Nearest to *lafayaria* Dogn. and *semiornata* Warr., but quite distinct from both.

31. **Rhodochlora albimacula** spec. nov.

Forewing : bright green; the costal edge narrowly ochreous; first line from one-fourth of costa to one-third of inner margin; second from three-fourths of costa to two-thirds of inner margin, slightly darker green, but marked by red-brown

vein-dots ; the outer line is swollen into a red-brown blotch between veins 3 and 4, and between veins 2 and 3 into a snow-white larger blotch edged with dark red-brown ; cell-spot black, edged with red ; some slight red marks on margin between the veins, clearer towards costa ; fringe pale green, with a red spot at apex.

Hindwing : similar, but without first line ; the outer line with the white blotch only, and that smaller.

Underside pale green ; without markings, except the red marginal spots in the upper half of forewing ; costa of forewing yellowish ; the two white blotches showing through.

Palpi greenish white below, reddish externally and above ; face, vertex, thorax, and abdomen green ; fillet white ; anal segment and underside of abdomen and the legs white.

Expanse of wings : 32 mm.

1 ♀ from St. Lucia, West Indies, July 1903 (Branch).

Smaller than the other species, but otherwise agreeing.

32. **Tachyphyle aeretincta** spec. nov.

Forewing : olive-green shot with bronzy fulvous, this tint strongest in cell ; costa from middle to apex white, broadening outwards ; the basal half of costa, a subcostal streak beneath the white edge, and the apex deep sea-green ; from three-fourths of inner margin a pale bluish green streak curves into apex, which it does not quite reach, the ground colour in front of it rather deeper ; an inner line is faintly visible, chiefly on inner margin ; cell-spot black ; fringe bluish white.

Hindwing : with the bluish green streak straight, just beyond the middle ; cell-spot black ; costal area white.

Underside paler, dull green, the cell of forewing bright fulvous ; hindwing with costal half paler ; a dark blotch on inner margin to cell-spot.

Face, palpi, vertex, and base of antennae white ; thorax green ; abdomen yellowish green.

Expanse of wings : 27 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

The apex of forewing is falcate.

Subfamily STERRHINAE.

33. **Anisodes decorata** spec. nov.

Forewing : pale yellow, with a faint olive tinge, thickly dusted with brick-red atoms ; the red atoms thickened and confluent along costa ; the lines red ; first at one-fourth, thickened and rather squarely projecting above and below median ; median line rather beyond middle, distinct and strongly lunulate-dentate ; cell-spot minute, snow-white, with a fine black edge set in a rust-red ring ; outer line at three-fourths, nearly straight, slightly dentate outward on veins, incurved towards costa, preceded by a band of yellow ground-colour and followed by an irregular line of wedge-shaped marks, those at costa, beyond cell, and on submedian fold filled up with red ; submarginal line similarly sharply lunulate ; marginal spots black between the veins ; fringe yellow, spotted with red beyond the veins.

Hindwing : similar.

Underside with all the tints paler.

Face and palpi reddish above, pale below; vertex, thorax, and abdomen yellow, thickly sprinkled with red; a white spot between antennae, which are reddish.

Expanse of wings: 40 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

A species unlike any other. Hindlegs broken.

34. **Anisodes fulgurata** spec. nov.

Forewing: dull chocolate-brown with ochreous dusting; the lines ochreous; first from one-fourth of costa to one-third of inner margin, angled on subcostal vein, then vertical, externally slightly darker-edged; outer line from five-sixths of costa to five-sixths of inner margin, curved and slightly bent inwards at vein 4, darker-edged internally; submarginal line acutely zigzag, occupying the whole marginal area, the outer teeth touching the black marginal spots, which are connected by a dark festoon; fringe concolorous; cell-spot dark reddish above, with some whitish slightly raised scales below.

Hindwing: similar, the outer line more strongly bent at middle; cell-spot linear, ochreous white, outwardly edged with deep brown.

Underside dull blurred reddish-ochreous, darker in forewing; the outer lines broad and pale, inwardly edged with a reddish crenulate line.

Head, thorax, and abdomen like wings; upper half of face dark brown.

Expanse of wings: 26 mm.

1 ♂, Upper River Toro, La Merced, Peru, 3000 m., August, September 1901 (Simons).

Hindmargins crenulate; hindtibiae of ♂ with terminal spurs only. A very distinct species.

35. **Anisodes gigantula** spec. nov.

Forewing: yellow-ochreous, thickly dusted with bright rosy striae; the three cross-lines or bands, as in *annularis* Feld., but narrower and more distinct, also bright rosy, like the cell-mark, which resembles that of *annularis*; a row of marginal spots, sometimes hardly visible; fringe like wings.

Hindwing: similar.

Underside with fewer striae and much brighter markings.

Upper half of face, upper edge of palpi, and forelegs externally rosy; vertex, collar, and antennae ochreous, without speckling; thorax, patagia, and basal segments of abdomen ochreous, covered with rosy speckling; rest of abdomen ochreous, with a large red dorsal blotch on fourth segment; underside of abdomen and legs ochreous only.

Expanse of wings: 56 to 62 mm.

Numerous from Peru, Ecuador, and Bolivia.

I have hitherto referred this to *annularis* Feld., but I now feel convinced that they are distinct species; among the numbers from Santo Domingo, S.E. Peru, only one has been received which can possibly be considered *annularis*; in this latter species the ground-colour is more blurred, and the bands, though broader, are less distinct. Felder's type was from Brazil, and expands 46 mm. only; *gigantula* expands 60 mm.

36. **Anisodes maculidiscata** spec. nov.

Forewing: pale wood-brown, tinged with grey, and with transverse dark striae; the costa narrowly brownish; lines smoky fuscous; first near base, outcurved a little above and below the median vein; outer line thick, lunulate-dentate, at two-thirds, outcurved beyond cell; a cloudy lunulate submarginal line, marked darker on veins, and followed by some smoky grey patches; cell-spot of glistening white scales placed in the middle of an oblong blotch of whitish and greenish scales between veins 4 and 6; hindmargin crenulated; fringe white, with dark flecks beyond the veins.

Hindwing: with the whitish green blotch round the white cell-spot occupying the whole middle of wing, extending above subcostal and below median vein, only the ends of the central dark line being visible; the rest as in forewing.

Underside glossy whitish, in the forewing with a flesh-coloured tinge; the cell-spot whitish, followed by a dark grey postmedian and dotted submarginal line; a dark lunulate marginal line; hindwing with marginal line only, the submarginal dots indicated.

Head, thorax, and basal half of abdomen like wings: vertex white; anal half of abdomen whitish.

Expanse of wings: 35 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

Hindtibia of ♂ with one median and two terminal spurs, as in *Pisoraca*.

37. **Anisodes multipunctata** spec. nov.

Forewing: yellow, covered with dense transverse reddish striae, leaving only a small space in cell before the cell-spot, and a larger one on inner margin towards anal angle, pale yellow; lines marked by distinct black spots on veins and darkened by grey shades; first line near base with six points, the usual three on the veins, one on each fold, and one sub-costal nearer base; cell-spot a thick black ring with pale centre; median shade thick, reddish, dentate, nearly vertical, slightly inbent at middle; outer line angled outwards on vein 4, and inwards on the submedian fold, the spots nearly in a straight line on each side of the middle angle; submarginal line formed of large wedge-shaped black marks; large round black marginal spots; fringe reddish.

Hindwing: like forewing, but the lines of spots curved; cell-spot silvery white.

Underside yellowish ochreous, the forewing with red striation and suffusion; a large dark cell-spot; postmedian, submarginal, and marginal spots represented; costa striated with fuscous; hindwing with the three outer series of spots, the postmedian red.

Face and palpi red; vertex, thorax, and abdomen yellow tinged with red; abdomen with a yellow dorsal line; fillet yellow; antennae red.

Expanse of wings: 32 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

Hindtibia with terminal spurs only, as in *Perixera*.

38. **Anisodes pomidiscata** spec. nov.

Forewing: biscuit-colour, tinged and neatly striated with pale brownish fawn: the lines denoted by dull reddish vein-spots on a darker fawn-coloured shade; the inner line at one-fourth, the outer at three-fourths, the latter followed by patches of deeper fawn beyond cell, and between veins 1 and 3, and to a less degree beneath costa; submarginal line more or less macular; median shade diffuse, obscurely dentate-lunulate, outcurved round the cell-spot; this has a yellow centre within a thick orange-red ring; all the veins finely dotted with reddish and fawn; fringe of the pale ground-colour, with red scales at base beyond the veins.

Hindwing: similar, but the cell-spot much larger.

Underside of forewing brown-red from base to median shade, except along inner margin, and with a macular reddish band beyond outer line; marginal lunules red; cell-spot whitish with dark outline; median shade distinctly lunulate-dentate; outer line marked by vein-dots: hindwing wholly pale ochreous, with a few red striae along costa, reddish marginal lunules, dots of outer line and ring of cell-spot.

Face and palpi red-brown above, ochreous beneath; vertex and antennae dark fawn-brown; thorax paler fawn, the metathorax with red spots; abdomen paler, with dark speckles.

Expanse of wings: 30 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February 1902, wet season (Ockenden).

39. **Anisodes rufistigma** spec. nov.

Forewing: cream-colour, finely speckled with grey, broadly grey along the costa; the lines greyish ochreous, all parallel to hindmargin; the inner marked on its inner edge with blackish vein-dots; the median and outer dentate, the former thick, the latter finer, marked outwardly with dark vein-dots; the inner submarginal shade thicker than the outer; the usual marginal dots between the veins placed a little before the margin; minute specks at the vein-ends, at base of fringe, which is ochreous; all the markings tinged with reddish ferruginous across the two folds; cell-spot annular, red.

Hindwing: with all five lines; the cell-spot annular, red and conspicuous; a dark spot at base.

Underside pure cream-colour; forewing with costal region tinged with ochreous and with darker striae; the lines well marked and the red spots distinct.

Head, thorax, abdomen, and antennae cream-colour; palpi above and forelegs in front rosy-tinged.

Expanse of wings: 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

The hindwing is angled and toothed at vein 4, crenulate from apex to tooth, straight below.

40. **Anisodes rufulata** spec. nov.

Forewing: deep yellow, very densely sprinkled with red striae, which become in places more or less confluent; the lines of the same red tint; first

at one-fifth, slightly outcurved above and below median vein, its inner edge with darker vein-points ; outer line at four-fifths, lunulate-dentate, outcurved in middle, the teeth only slightly deeper on veins, followed, in the ♂ only, by yellow unspeckled blotches : submarginal line hardly marked, except by some obscure macular clouds preceding it ; median shade thick and diffuse, indistinctly dentate, from just beyond middle of costa to beyond middle of inner margin almost vertical ; cell-spot white, smaller in the ♀ than in the ♂ ; red marginal spots between the veins and smaller ones beyond them in the yellow fringe.

Hindwing : similar, without basal line ; the cell-spot in the ♂ large and conspicuous.

Underside with the ground-colour and all markings dull.

Head, thorax, and abdomen like wings ; palpi and face below, vertex and antennae yellow without red speckling.

Expanse of wings : ♂ 30 mm. ; ♀ 32 mm.

2 ♂♂, 3 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February—April, 1902 (Ockenden).

Smaller and duller than *aurantiata* Warr., with which and *subaenescens* Warr. it agrees in the vertical direction of the median shade of forewings ; the difference in size of the cell-spots in the two sexes is characteristic.

Deinopygia gen. nov.

♂. *Forewing :* triangular ; costa straight, curved before apex, which is acute ; hindmargin as long as inner margin, obliquely curved ; anal angle rounded off.

Hindwing : with inner margin very long, the anal angle produced and lobed ; hindmargin rounded from apex to vein 6, thence to anal angle excised. The submedian interval beneath with convergent fringes of long hairs, one along the inner margin (in addition to the usual abdominal fringe) directed upwards, and another along median vein and vein 3 directed downwards ; the costa also fringed.

Antennae of ♂ ciliated ; palpi slightly upcurved, third segment minute ; hind legs aborted, the tibia attenuated and bare, the tarsus with a flap of rough hairs ; abdomen with lateral tufts beneath at the base of the anal segment ; the anal sheath enormously elongated, almost as long as the rest of abdomen.

Neuration as in *Ptychopoda* ; 6 and 7 of hindwing on a long stalk.

Type : *Deinopygia caudata* spec. nov.

41. **Deinopygia caudata** spec. nov.

Forewing : pale ochreous, tinged and dusted with brown ; costa with two brown spots at one-third and nearly two-thirds, indicating origin of lines, which are difficult to trace ; a large black cell-spot ; the outer line is followed by a more or less interrupted brown band, forming a patch beyond cell and on submedian fold ; submarginal line wavy, pale, preceded in upper half of wing by a brown cloud which is produced into apex ; fringe ochreous, with large black spots at the base.

Hindwing : with the brown band less interrupted, running from about middle of costa to three-fourths of inner margin, passing inside the large black cell-spot ; fringe spotted as in forewing.

Underside with the black cell-spots and fringe-dots conspicuous : the submarginal line of forewing distinct ; hindwing with very few dark speckles ; the two fringes of hair ochreous like the wing.

Thorax and abdomen ochreous; collar brown; vertex white; face and palpi black-brown.

Expanse of wings: 16 mm.

2 ♂♂ from Valencia, Venezuela.

42. **Emmiltis (Craspedia) cinerosaria** spec. nov.

Forewing: whitish, densely speckled with dark grey scales; the lines dark grey, all more or less parallel to hindmargin, the basal and median obscure, the outer at four-fifths black and conspicuously lunulate-dentate; the slender pale submarginal line also clear between dark grey shades; marginal spots black between the veins; fringe whitish, with small black dots at base beyond the veins; cell-spot blackish.

Hindwing: similar, without first line.

Underside of forewing dull cinereous, the inner margin white; all the lines shown except the basal: of hindwing white; cell-spots black.

Face, palpi, and collar black; vertex, base of antennae, and shoulders snow-white, without speckling; thorax and abdomen like wings; legs whitish, front of forelegs black.

Expanse of wings: 30 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

43. **Emmiltis (Craspedia) convergens** spec. nov.

Forewing: bone-colour, thickly dusted with fine black atoms; the lines and shades olive-grey; first line slender, obscure, from one-fourth of inner margin, oblique towards cell-spot; median shade thicker, slightly bent, from middle of inner margin to four-fifths of costa, obliqne parallel to first line; outer line from two-thirds of inner margin, also slightly bent, to just before apex; marginal area occupied by two broad olive-grey bands, with lunulate outer edges, separated by a broadish pale space representing submarginal line, these shades narrowing off to a black apical spot; cell-spot small, black; marginal line finely black, swollen between the veins and interrupted by them; fringe bone-colour.

Hindwing: without basal line and apical black spot.

Underside of forewing almost wholly olive-ochreous; of hindwing bone-colour; the markings plain beyond middle.

Thorax and abdomen like wings; collar brownish; vertex white; face and palpi black.

Expanse of wings: 20 mm.

3 ♂♂, 4 ♀♀ from Onaca, Sta. Martha, June—August (Engelke).

Distingnished from the two other species with black apical spot, *umbilicata* Fab. and *crenatilinea* Warr., by the much more obliqne markings.

44. **Emmiltis (Craspedia) perfumosa** spec. nov.

Forewing: dark smoky cinereous, with darker lines and shadings, but all generally obscure; in fresh specimens a strongly dentate-lunulate outer line is seen, from beyond two-thirds of costa curving in below middle to two-thirds of inner margin; cell-spot large, blackish; above it a spot on costa indicating the beginning of a median shade, preceded by an obscure curved dark inner line; some

dark submarginal blotches indicate the submarginal line ; a line of black marginal dots ; fringe like wings.

Hindwing : with dark cell-spot and outer line, and dark submarginal cloud.

Underside uniform pale cinereous.

Face and palpi black ; thorax and abdomen like wings ; vertex white.

Expanse of wings : 19 mm.

6 ♂♂, 1 ♀ from Agualani, S.E. Peru, 10,000 ft., September 1901 (Ockenden).

45. **Ligonia böttgeri** spec. nov.

Forewing : brick-red ; the costa broadly liver-colour ; lines dark brown ; first close to base, obscure ; median shade broad and diffuse, from beyond middle of costa, vertical above, touching the silvery white raised cell-spot, but outcurved below to two-thirds of inner margin ; outer line fine, very sinuous, from three-fourths of costa to three-fourths of inner margin, insinuate beyond cell and in submedian interval ; the marginal space below vein 6 filled in with dark brown, but containing small pale patches before the black marginal spots ; fringe brick-red, below vein 6 and at anal angle dark brown.

Hindwing : with no first line ; the median shade fine ; the white cell-spot minute ; brown marginal patches beyond outer line at apex and anal angle ; fringe brick-red.

Underside smooth, deep rosy ; forewing with costa and marginal area brown ; all the lines marked except the basal ; hindwing paler.

Face and palpi deep red-brown ; vertex, antennae, and shoulders liver-colour ; thorax and abdomen red, like wings.

Expanse of wings : 30 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Differs from the type-species, *exquisitata* Moeschl., in having the underside of body and wings smooth and glossy, not woolly. The hindlegs of both specimens are broken off.

46. **Ptychopoda taeniolata** spec. nov.

Forewing : pale yellow, crossed by four pale red belts ; the first forming a basal patch, and traversed at middle by a slender yellow line ; the second median ; third and fourth submarginal, separated by a slender wavy yellow line ; a thick red marginal line, interrupted at the veins ; fringe yellow.

Hindwing : similar, but the basal patch small.

Underside like upper.

Face dark brown ; head, thorax, and abdomen dull reddish, with yellow scales intermixed.

Expanse of wings : 14 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

Smaller, and with narrower, more pointed forewing than either *quadrirubrata* or *nigricosta* Warr.

47. **Semaeopus carnearia** spec. nov.

Forewing : deep flesh-colour, finely dusted with greyish, especially towards hindmargin ; lines olive-grey, obscure ; first at one-third, slightly curved ; median

sinuous at two-thirds; outer lunulate-dentate at five-sixths; cell-spot obscure; fringe concolorous.

Hindwing: similar, without basal line.

Underside paler; costal edge of forewing deep pink.

Vertex, face, and palpi dark grey-brown; face and palpi pale below; thorax and abdomen like wings; hair-tuft of hindtibia pale ochreous.

Expanse of wings: 38 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

48. **Semaeopus incolorata** spec. nov.

Forewing: pale stone-colour, with a faint pinkish ochreous tinge, greyer along the costa; lines very ill-defined, slightly darker; first at about one-third, outbent above and below the median vein; median and outer both lunulate-dentate; the former a little beyond middle, bent outward round cell-spot, which is linear and faint; outer at five-sixths, insinuate on the folds; small dark marginal spots between the veins; fringe paler.

Hindwing: paler, especially along costa, with the two outer lines marked; cell-spot brown, distinct.

Underside smooth, without any grey tint; all the markings indicated.

Face and palpi grey-brown, lower part of face and palpi beneath whitish; vertex and thorax like forewing; abdomen paler, like hindwing; hair-tufts of hindleg yellow-ochreous.

Expanse of wings: 30 mm.

1 ♂ from R. Solocame, Bolivia, 1200 m., January 1901 (Simons).

49. **Synelys impunctata** spec. nov.

Forewing: white, very finely speckled with dark scales; costa ochreous-tinged; lines very indistinct in ♂, in the only ♀ much better marked; basal line oblique from inner margin, rarely visible, and not reaching costa; middle line from middle of inner margin obliqne towards two-thirds of costa; outer line parallel to hindmargin from three-fourths of inner margin, more waved; submarginal line suggested only; marginal line none, or very slight and towards costa only; fringe white, sometimes with minute grey dots beyond veins.

Hindwing: without inner line; the dots in fringe more conspicuous.

Underside more thickly and darker speckled towards base; costa of forewing broadly ochreous; cell-spots small.

Vertex, thorax, and abdomen white; face and palpi black.

Expanse of wings: 30—32 mm.

7 ♂♂, 1 ♀, from Chimney Gulch, Colorado, May 1901 (Oslar).

The lines in the ♂♂ are pale ochreous, sometimes slightly greyish, in the ♀ grey.

I have hitherto referred this insect to *quinquelinearia* Pack., which Packard says "is rather a Pacific coast species, though it occurs not infrequently in Colorado." Hulst places *quinquelinearia* in *Leptomeris*, not in *Synelys*, the genus which he erected for the species with angled hindwings, although Packard compares it with the European *strigilaria*, which has angulated hindwings. According to Packard, *quinquelinearia* has cell-spots marked on upperside and a marginal line; these are not present in the Colorado form.

Trichosterrha gen. nov.

A development of *Sterrha*, the hindtibiae in both sexes with terminal spurs only. In the ♂ the hindtibia is thick, and clothed on the inner side with a tuft of thick stout hairs; the first segment of tarsus is swollen pouch-like, and as long as the other four segments together; the antennae have long pedicellate fascicles of cilia, ciliated themselves laterally and apically.

Type: *Trichosterrha olivata* spec. nov.

50. **Trichosterrha? brunneofasciata** spec. nov.

Forewing: glossy ochreous, stained with darker; a red-brown median fascia edged by the first and second lines, as far as vein 2, from 2 to 6 continued only along outer line: the inner line acutely angled outwards in cell, the outer angled outwards on vein 3; a black cell-spot, touching upper inner edge of the fascia; submarginal line waved, between two slightly darker clouds; fringe ochreous, with minute dark dots at the base.

Hindwing: with the fascia entire throughout.

Underside with the fascia indicated in grey; cell-spots black.

Face, palpi, and collar red-brown; vertex, thorax, and abdomen ochreous; dorsal segments at middle tinged with red-brown.

Expanse of wings: 18 mm.

2 ♀♀ from Valencia, Venezuela.

Hindtibia of the ♀ with terminal spurs only.

There is much superficial resemblance between this insect and the Indian *Acidalia pulchrifascia* Hmpsn., figured in the *Journal of the Bombay Natural History Society*, vol. xv. Pl. C., fig. 13.

51. **Trichosterrha? dentatilinea** spec. nov.

Forewing: greyish ochreous, with a slight dusting of rufous; the three lines dark grey, lunulate-dentate; first at one-fourth, dentate basewards; median and outer parallel to each other and hindmargin, dentate outwards; the median somewhat thickened; cell-spot a grey annulus; marginal line dark, interrupted; fringe ochreous.

Hindwing: similar, with all three lines.

Underside ochreous, without grey tinge or dusting; forewing tinged with dull rosy; all the lines dull rosy.

Face black, pale below; palpi externally rosy; vertex, thorax, and abdomen ochreous.

Expanse of wings: 19 mm.

1 ♀ from Valencia, Venezuela.

Hindtibia of ♀ with terminal spurs only.

52. **Trichosterrha olivata** spec. nov.

Forewing: smooth pale stone-colour, with a suffusion of olive-grey; a few coarse black speckles at base only; first line at one-fourth, slightly deeper grey, but marked by blackish dots on veins, projecting in cell towards the small black cell-spot; median angled outwards on vein 6, then sinuous to submedian fold,

thence vertical, darker grey; outer line cream-white, from three-fourths of costa, to just before anal angle, very sinuous, roundly produced on vein 6, forming a sinus inwards beyond cell and in submedian interspace, preceded between 4 and 6 and followed between 4 and 7 by dull red stains, the latter reaching hindmargin; a row of small black marginal spots; fringe olive-grey, the basal half deeper; the olive-grey tint deepens in each case before the lines.

Hindwing: like forewing, but without basal line and the red marginal stain.

Underside browner grey, with the black cell-spot and marginal spots and pale outer lines; costa of forewing black at base.

Face and palpi black; vertex white; thorax and abdomen pale stone-grey; the tuft of hairs on hindtibia black.

Expanse of wings: 22 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, January 1902, wet season (Ockenden).

The ♂, dated November, is considerably wasted; the ♀, taken later, quite fresh

Subfamily HYDRIOMENINAE.

53. **Anapalta subfusca** spec. nov.

Forewing: brown, with the markings fuscous, the whole with an olive tinge; basal area and central fascia and the shades limiting the submarginal line fuscous, the edges blackish; basal line from about one-sixth of costa to one-half of inner margin; inner edge of central fascia from one-third of costa to two-fifths of inner margin, bluntly angled outwards on the folds; space between basal patch and central fascia brown, edged with pale lines; outer edge of fascia irregularly dentate-lunulate, from two-thirds of costa to three-fourths of inner margin, squarely projecting between veins 6 and 2; the fascia is crossed by four waved dark lines, which are broad and distinct at costa; cell-spot black; a pale brownish band beyond fascia with a dark middle line, and forming small white teeth on the outer edge of fascia; submarginal line pale brown, between dark shades which are both themselves red-brown between veins 3 and 4; pairs of black marginal spots separated by a pale dot at the vein-ends, from which a pale ray traverses the fuscous fringe.

Hindwing: whitish tinged with yellowish; some grey scaling along hindmargin and at apex; marginal dots in pairs; a dark grey blotch at anal angle and traces of grey lines above it; fringe yellowish, cell-spot grey.

Underside of forewing dark grey, with traces of outer and submarginal lines paler, especially at extremities; sometimes these are quite pale, as well as the extreme hindmargin; fringe mottled dark grey and ochreous; cell-spot black; hindwing dirty ochreous, grizzled with grey, with a dark grey cell-spot, curved postmedian line, and marginal border; fringe pale.

Head, thorax, and dorsum dark fuscous; abdomen beneath and at sides like underside of hindwing; legs blackish with the joints ochreous.

Expanse of wings: 38 mm.

3 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

The species can be distinguished by the square projection of the outer edge of central fascia in middle, as well as by the difference in shade of the underside of the two wings.

54. **Epirrhoe limitata** spec. nov.

Forewing: olive-ochreous tinged with brown, this ground-colour, however, only showing in the cross-lines, especially the broad outer line, and an oblique apical streak; the rest of the wing dark olive-fuscous; basal patch small, crossed by three black lines followed by a pale one; a pale band before central fascia with a dark line down it; this band outcurved above and incurved basewards below the median; central fascia with three dark thick wavy lines on both edges, meeting in middle and leaving paler spaces on costa and inner margin; outer edge slightly protuberant below middle, but without teeth or lunules; cell-spot black; band following fascia broad, outwardly dentate-lunulate, traversed by a dark line, the space inside it white, outside pale brownish; submarginal line lunulate, brownish flesh-colour, preceded in its lower course and followed throughout by dark suffusion; a broad pale brownish streak oblique from apex to outer line at vein 4, the shading above it towards costa dark; pairs of black marginal dots; fringe dark in basal half, chequered dark and light in apical half.

Hindwing: whitish, smoky grey at base, with small black cell-spot and pairs of marginal spots below vein 5; some dark shading and indications of two lines at anal angle; fringe whitish, darker towards anal angle.

Underside of forewing dark grey with the broad outer and macular submarginal line pale; hindwing pale ochreous, dusted with grey, with dark cell-spot and four lunulate-dentate lines, the last submarginal, double and filled up with grey.

Palpi externally dark fuscous; face and vertex brownish; thorax mixed brown and fuscous; abdomen cinereous, with blackish dorsum.

Expanse of wings: 39 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

The forewings are much like those of *H. subguttaria* H. S., but smaller; the white hindwings distinguish it at once.

55. **Erebochlora ruficostaria** ab. **semifumata** nov.

This form is intermediate between typical *ruficostaria* Warr. and its ab. *pernigrata*. The forewing remains the same; the hindwing, instead of being white, with the concise black border of the type, is greenish white, with a broad black border, of which the inner edge is diffuse, and runs up in the form of blackish striae along the veins and costal and inner margins.

On the underside the cream-coloured patches are tinged with greenish.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

56. **Eriopygidia isolata.**

Arima isolata Kaye, *Trans. E. S.*, 1901, p. 149, T. 6, fig. 25 ♀, Trinidad.
Eriopygidia engelkei Warr., *Nov. Zool.* xi. p. 49 ♂ (1904) Santa Martha.

Among the insects lately received from Santo Domingo, S.E. Peru, captured by Ockenden, I have seen a pair in which the ♂ agrees with my type of *E. engelkei*, while the ♀ is exactly like that of *A. isolata* Kaye, and I have no doubt that they represent the sexes of one and the same species. The ♂♂ are larger than the ♀♀, 35—37 mm. as compared with 30 mm. The fulvous markings of the forewing seem confined to the ♂, in which sex the black tints of the lines are also more prominent, especially the shading on each side of the submarginal line; in the

hindwing the ♂ has the inner and hindmargins broadly greenish grey, the centre only being dull fulvous; in the ♀ the whole of the hindwing is brighter fulvous with the hindmargin alone narrowly greenish grey.

57. **Eriopygidia nigrirubrata** spec. nov.

Forewing: deep green; the lines and markings brown-black; basal patch consisting of two lines and a shade between them, all bent or angled on the subcostal vein; central fascia in middle of wing, the same width on costa and on inner margin, rather bulged outwardly in middle, formed of two thick black shades embracing a central green space, the edges lunulate between the veins; the narrow green bands on each side marked by a black tooth on costa and an indistinct central thread; marginal area traversed by four black lines, divergent towards costa, constricted below, the outer ones consisting of wedge-shaped black marks between the veins; a row of large black marginal lunules, their bases outwardly marked with red scales, and their apices touching these of the outermost wedges; fringe dark green, mixed with red scales.

Hindwing: bright red; the base and the inner margin to two-thirds, olive-fuscous; the costal margin, a cloud from anal angle to vein 4, and a median lunulate line black; cell-spot and marginal lunules black; fringe reddish, blacker at base.

Underside of forewing dull olive-fuscous, with scattered red scales; a red curve from costa beyond central fascia, and streak along upper half of cell: hindwing dull red, thickly black-speckled, with a clearer curved postmedian band; cell-spot black; inner margin and base tinged with green.

Vertex, face, and palpi pale greenish ochreous; shoulders, patagia, and thorax olive-green; abdomen blackish with pale speckling; pectus and legs beneath greenish ochreous; legs in front blackish mottled with ochreous.

Expanse of wings: 44 mm.

1 ♂ from Huancabamba, Cerro de Paseo, Peru (Böttger).

Distinguished by the dark underside of wings.

58. **Eriopygidia rufivena** Warr.

The ♀ of this species differs very considerably from the ♂. The forewing is the same, except that the pale lines edging the dark markings are much brighter and more conspicuous; but the hindwing is bright copper-red, with the inner margin broadly pale olive as far as an obscure curved median line, then narrowly olive to anal angle, with traces of the commencement of a submarginal line; the fringe olive.

Underside as in the ♂; abdomen much paler, yellowish ochreous, the dorsal segments pale olive.

2 ♀♀ along with 1 ♂, even darker than the type, from Santo Domingo, Carabaya, S.E. Peru; 1 ♀ taken in March, wet season, the other with the ♂ in June, dry season, 1902 (Ockenden).

Were it not for the actual identity in the markings of the forewings, the sexes of this insect might well be supposed to belong to different species, so great is the contrast in the coloration of the hindwings.

59. **Gagitodes plumbinotata** spec. nov.

Forewing: ochreous washed with brown; basal patch, the broad band following it, a triangular patch on costa before apex, and a submarginal blotch along vein 2 purplish slate-colour; the edge of basal patch and the bands edging central fascia marked at costa by velvety black blotches; the margins of the bands preceding and following the central fascia finely ochreous; the inner band of central fascia is continued across the wing, but interrupted below middle by the brown dusting of the central ochreous space; cell-spot a brown lunule with a broad pale ochreous edging, forming an ear-shaped blotch with two dark spots on its outer edge; the pale line edging central fascia externally is right-angled above vein 6, then incurved and marked by black dots on veins; a black oblique streak from apex; submarginal line hardly indicated; extreme margin and fringe deeper brown, the outer half of fringe mottled with grey; pairs of small black dots along margin at the ends of the veins.

Hindwing: cream-white, with indications of black lines at and above anal angle; fringe pale brown; cell-spot grey.

Underside pale ochreous, in the forewing suffused with purplish grey except towards anal angle and along the outer line which is marked by black vein-dots; in the hindwing dusted only with dark grey, with the cell-spot and outer row of dots conspicuously black as in forewing; fringes as above.

Palpi, head, and thorax purplish black; abdomen ochreous grey, with the base broadly and the anal segment purplish black.

Expanse of wings: 29 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

60. **Hydriomena scalata** spec. nov.

Forewing: grey speckled with darker, tinged in parts with pale green and pale flesh-colour; a small grey blotch at base of costa; the rest of the wing crossed by five dark grey bands; the first narrow and oblique, from near base of costa to one-fourth of inner margin; the second broad, also oblique outwards, angled outwards on the median vein and inwards on the submedian fold; the third Y-shaped, the two upper arms rising obliquely from costa as squarish black blotches, angled outwards in cell, then becoming blackish lines, parallel to each other, and angled inwards on submedian fold, crossed by the black veins; fourth vertical and slightly sinuous, oblique inwards from vein 6 to submedian fold, its outer edge wedge-shaped between the veins; fifth marginal; a dark oblique streak from apex with two short black dashes on it; the paler spaces between the bands along costa, where they are broader, are pale green, and below, where they become narrowed, pale reddish; a linear black cell-spot touching the inner arm of the middle band; a marginal line of black dashes at the vein-ends; fringe concolorous with marginal band; when fresh most of the veins are black and the bands edged with black.

Hindwing: pale grey, with traces of curved median, postmedian, and marginal darker bands; fringe pale grey.

Underside greenish cinereous; the bands of both wings slightly darker; costa of forewing broadly greenish ochreous with the bands darker, the fourth and outer arm of the third black.

Head and thorax fuscous and dark green : abdomen pale cinereous with a brown tinge.

Expanse of wings : 38 mm.

2 ♂♂ from Gold Hill, Oregon (Biedermann).

In one of these ♂♂, which is not so fresh as the type, the pale spaces are more prominent, the dark scales, as well as the pink and green ones, being more or less lost ; and the dark lines of the veins are wanting.

61. **Hypolepis brunneata** spec. nov.

Forewing : olive-brown ; basal and median areas deeper brown ; basal patch edged by a bright white, dark-edged line, vertical but slightly waved ; inner edge of central fascia similarly edged, the line more waved, slightly projecting at middle ; outer edge more broadly white, lunulate-dentate, sharply indented inwards in cell and incurved below middle, so that the fascia is only half as broad on inner margin as on costa ; marginal area confused, brownish olive, a darker subapical shade with a paler blotch below it, but none of the markings with the usual clearly defined outlines ; fringe pale olive-brown (worn).

Hindwing : dark smoky olive-brown, with a darker cell-spot.

Underside of both wings with a strong ferruginous tinge, especially along the costal areas ; the lower parts of the wings dull grey-brown ; in forewing a large ferruginous patch from costa beyond central fascia ; hindwing paler striated with brown, and with a distinct brown cell-spot.

Head, thorax, and abdomen olive-brown ; abdomen beneath greyish ochreous.

Expanse of wings : 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

Allied to *H. castanea* and *sordida* Warr.

62. **Hypolepis completa** spec. nov.

Forewing : bone-colour, the markings dark olive-brown ; basal patch small, its edge oblique outward to submedian fold then oblique inwards, bisected below median by a short pale streak parallel to lower edge ; inner edge of central fascia straight, inwardly oblique, parallel to lower edge of basal patch, so that the pale interval between them is Y-shaped, the broader costal portion containing a brown central patch ; outer edge unevenly dentate, the fascia constricted on submedian fold, and projecting between 2 and 4 so as to coalesce with a large subapical brown triangle and a brown blotch extending to anal angle, leaving a paler space on margin between 3 and 4, and another on inner margin beyond the fascia ; the pale apical triangle with a brown streak from costa ; in the middle of central fascia, above median vein a small pale spot of ground-colour of varying size ; fringe ochreous with fine brown dashes in the ♀, with broader brown mottlings in the ♂, in which all the brown markings are more complete.

Hindwing : smoky fuscous, with paler base ; a dark cell-spot and median line ; hindmargin darker ; marginal line dark brown ; fringe pale with dark chequering.

Underside of forewing blurred grey-brown, with the paler spaces showing through ; of hindwing straw-colour, slightly striated with brown, with brown cell-spot and macular central line.

Head, thorax, and abdomen straw-colour ; base of shoulders and patagia mixed with brown ; antennae brown, annulated with pale.

Expanse of wings : ♂ 18 mm. ; ♀ 20 mm.

2 ♂♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Very much like *H. paleata* Guen., but smaller, without the yellow markings, and with the dark markings much stronger and more complete.

63. **Hypolepis serratilinea.**

Psaliodes serratilinea Warr., *Nov. Zool.* xi. p. 70. ♀.

The examination of the ♂ of this species proves it to be a *Hypolepis*. It differs in coloration from the ♀, being olive-tinged throughout. The antennal structure, moreover, is abnormal ; the shaft is thickened, rasped above, and bearing short curved clavate teeth below.

The only ♂ hitherto seen was taken at the same place as the ♀, Santo Domingo, S.E. Peru, and at the same time of year (Ockenden).

Isodiscodes gen. nov.

Differs from all other *Hydriomeninae* in having the discocellular of forewing exactly like that of the hindwing, biangulate, the upper and lower ends vertical, the middle oblique, the lower radial from the lower outward angulation ; the upper radial is stalked with 7, 8, 9; the areole double. Antennae lamellate, without pubescence ; palpi short, straight, rough-haired below.

Type : *Isodiscodes polycyma* spec. nov.

64. **Isodiscodes polycyma** spec. nov.

Forewing : cream-colour ; the lines and shades dark olive-fuscous ; the edge of the basal patch, the narrow central fascia, the space before submarginal line, and the marginal area are all olive-fuscous, formed by the coalescence of two or three dark lines leaving irregular pale spots ; these are separated by three pale bands, antemedian, postmedian, and submarginal, consisting each of two lunulate lines separated by a similar line of olive-fuscous ; the basal patch itself is also traversed by a double pale line ; cell-spot olive-fuscous ; a distinct marginal line ; fringe mottled cream-colour and fuscous.

Hindwing : cream-colour, with grey marginal line and mottlings in fringe beyond veins ; a small grey cell-spot on upper half of discocellular ; a grey spot at anal angle.

Underside the same, the markings of forewing blurred.

Palpi dark fuscous, the tips pale ; face cream-colour, with a large fuscous central spot ; vertex fuscous ; antennae fuscous, the basal joint cream-colour ; collar cream-colour ; thorax olive-fuscous intermixed with grey ; abdomen cream-colour, the dorsum tinged with grey ; a dark ring before anal segment ; legs mottled, fuscous and cream-colour.

Expanse of wings : 38 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Orthoprora gen. nov.

Forewing: elongate; costa somewhat abruptly arched at base, then straight; hindmargin well curved, more oblique below.

Hindwing: narrow, elongate; inner margin short, anal angle obtuse; antennae of ♂ simple, lamellate; palpi straight, porrect, long; the last segment short; tongue and frenulum present; a strong metathoracic tuft.

Neuration: forewing, cell less than half the length of wing; discocellular straight, obliquer below; first median nervule at five-eighths, second close before third; radials normal; 7, 8, 9, stalked from just before end, 10 just before them, anastomosing with 11 which rises at five-eighths, and again with 7, 8, 9: hindwing, costal and subcostal anastomosing till close to end of cell; 6, 7 long-stalked.

Type: *Orthoprora rojiza* Dogn. (*Cidaria*).

65. **Psaliodes analiplaga** spec. nov.

Forewing: chocolate-brown, becoming paler towards the costa, the costal edge speckled black and white; a pale pinkish brown blotch occupies the outer two-thirds of inner margin, its inner edge curved and white; towards the anal angle are traces on the margin of three white dentate lines curved outwards and becoming obsolete above submedian fold, but reappearing shortly above vein 4 as three white lines, of which the outermost is composed of lunules; the brown ground-colour is deepest along the edge of the blotch; fringe brown, with a whitish spot on each side of vein 5, showing a dark marginal line, and preceded by some white scales beyond the lunules of the last line.

Hindwing: cinereous, with an obscure darker submarginal shade; the fringe chequered.

Underside of forewing dull cinereous, with indications of markings, especially the three white lines towards hindmargin; veins pale, spotted with dark; hindwing speckled, and tinged with yellowish; a dark cell-spot and interrupted dark submarginal shade.

Head, palpi, and thorax pale ochreous; abdomen grey, the dorsum darker.

Expanse of wings: 30 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February 1902, wet season (Ockenden).

Allied to *lisera* Dogn. and *fractilinea* Warr.

66. **Psaliodes lilacina** spec. nov.

Forewing: lilac-grey; crossed by two lines of lemon-yellow; the first near base, slightly waved, broader and forking on inner margin; the second from two-thirds of costa to inner margin a little before anal angle, broader at costa and a little outcurved below middle, and lunulate-edged, joined beyond cell by a broader yellow area from costa; both lines are edged with rather deeper lilac-grey, and the whole marginal area is of the same deeper tint; costa slightly dotted with yellow; fringe mottled yellow and lilac.

Hindwing: lilac-grey with dark cell-spot, and yellow fringe.

Underside with the lilac and yellow both deeper-coloured; the yellow lines much interrupted; hindwing with cell-spot black and traces of a darker median line; the base of both wings yellow.

Head, thorax, and abdomen lilac-grey; palpi and tips of patagia yellow; antennae lilac with yellow annulations.

Expanse of wings: 17 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Much like *Ps. infantula* Warr., but in that species the lines are green.

67. **Psaliodes nodosa** spec. nov.

Forewing: dark olive-brown; a pale subcostal streak from base to apex, the costal edge brownish, speckled with pale, and with whitish streaks at the origin of the lines, which are shining white: first line single, vertical, close to base, but bent in on median vein; inner band consisting of three crinkly white lines enclosing two brown ones, starting from before middle of costa, constricted just below median vein; outer band formed by three similar lines, interrupted by the brown ground-colour between veins 5 and 2; submarginal line shown only by a white blotch before middle of hindmargin; fringe brown, chequered with white.

Hindwing: brownish fuscous, with an obscure dark cell-spot; marginal line dark; fringe pale, mottled with dark beyond veins.

Underside of forewing blurred grey, the apex darker; costa speckled dark and light; an orange subcostal streak; costal part of outer band and the submarginal spot coalescent, forming a curved pale blotch mottled with darker: hindwing white densely speckled with brown, with dark cell-spot and curved, brown median and submarginal lines.

Head, thorax and abdomen, all somewhat rubbed, olive-brownish; palpi externally paler.

Expanse of wings: 22 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Exceedingly like *Ps. lisera* Dogn., but smaller, the markings more vertical.

68. **Psaliodes vulpina** spec. nov.

Forewing: reddish brown; from two-fifths of costa to one-fourth of inner margin an oblique broad cream-coloured belt, traversed by two ill-defined grey lines; outer line from two-thirds of costa to three-fourths of inner margin, very fine, pale at costa and outcurved in middle, blackish and lunulate below middle, the ground-colour just beyond it somewhat paler; fringe concolorous; costa slightly dotted with pale.

Hindwing: grey with a rufous under-tint, darker towards hindmargin, and with a rufous blotch at anal angle; a small dark cell-spot.

Underside dull reddish; cell-spots black; costa of forewing yellow-speckled; outer line in both wings yellowish, crenulate.

Head ochreous; palpi externally coarsely fuscous scaled; thorax red-brown; abdomen dark grey.

Expanse of wings: 17 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

Somewhat resembles *Ps. vinosata* Warr., but quite distinct on the underside.

69. **Sarracena brevilinea** spec. nov.

Forewing: olive-green; crossed by three cream-coloured black-edged narrow bands, much as in *chlamydaria* H. S.; the first slightly curved, the second straight, nearer the first than the third; the third sinuous, and with a red central line; the black edges are also finely edged with red; costa cream-coloured, edged below by red scales above black ones; fringe cream-coloured beyond a black marginal line.

Hindwing: with the upper half of wing to median vein pale; inner margin below vein 2 and apex to vein 6 blackish; a white streak from vein 2 curving into anal angle, with black edges and a red line, almost hidden below vein 1 by the black suffusion; marginal space beyond olive-green; marginal line black; fringe cream-colour tipped with rosy.

Underside much as in *chlamydaria*; the red in both wings fiery orange.

Palpi, thorax, and a spot on second segment of abdomen olive-green; face cream-colour; abdomen blackish, with broad reddish lateral stripe ending in lateral tuft; anal tufts olive, blackish above, red beneath; first joint of palpi, pectus, and femora red.

Expanse of wings: 48 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

Inner margin of forewing strongly rounded in basal half; the apex of both wings falcate.

70. **Triphosa ochricostata** spec. nov.

Forewing: grey-brown, with a reddish tint in places; the costal area broadly pale ochreous, its lower edge starting from inner margin at one-sixth; it is interrupted at two-thirds of costa by the lines forming the outer edge of central fascia, beyond which it forms a broad apical blotch reaching vein 6, bounded exteriorly by an oblique tint from apex; basal patch dark grey, the limiting lines ending on inner margin within the pale area; inner band of central fascia dark brown, limited by two lines, leaving inner margin before middle and interrupted at vein 6; outer band formed of four wavy lines, the outer edge lunulate and angled at vein 6; submarginal line denoted in lower half of wing by ochreous spots between the veins, with a brown shade preceding them; a row of brown marginal lunules; fringe brown. The lines are all obsoletely marked on the costal streak.

Hindwing: brown, with numerous waved darker transverse lines.

Underside uniform pale brown, with scarcely any markings; cell-spots distinct, black.

Head and palpi blackish; thorax ochreous mixed with grey; abdomen grey-brown.

Expanse of wings: 52 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

The single example is rather worn; it is probable that in fresher specimens the markings will be found to be much more distinct.

71. **Triphosa uniplaga** spec. nov.

Forewing: dark smoky grey, with the lines and shading black, separated by grey lines which form pale dashes on the veins; all the lines wavy, and marked more distinctly on the costal edge, where the black shadings are more intense and the grey intervals whiter; cell-spot oval, black in a pale grey or whitish ring;

submarginal line forming a large round white spot between veins 3 and 4, and a smaller one just below vein 2 ; a black lunulate marginal line containing a spot of white scales in the centre of each lunule and a white dot between each at the end of the veins ; fringe blackish, with pale tips.

Hindwing : smoky grey, with three central and two submarginal dark wavy lines ; cell-spots blackish ; veins marked with black and white dashes.

Underside duller with the markings faint ; cell-spots black ; the white submarginal blotch of forewing showing through.

Head, thorax, and abdomen dull black mixed with grey scales ; palpi black.

Expanse of wings : 46 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Subfamily ASTHENINAE.

72. **Amaurinia angulata** spec. nov.

Forewing : lilac-grey below median vein, this colour also filling up the basal patch and running up narrowly along hindmargin to apex ; the central costal area being olive-ochreous, dusted below with lilac-grey ; the lines thick, brownish ; first from one-fourth of costa to one-third of inner margin, forming a prominent angle on median ; outer line from just beyond middle of costa to beyond middle of inner margin, strongly rounded beyond cell ; submarginal line near and parallel to margin, thickened on the folds, preceded between veins 4 and 7 by three contiguous white hyaline spots, and throughout by a narrow line angled inwards on both folds ; traces of obscure and slender parallel lines between the others ; the subapical marginal space with traces of two lines separated by small white dots ; fringe worn.

Hindwing : with basal area and hindmargin narrowly from apex to middle lilac-grey ; the basal area is crossed near base by a pale darker-edged line and a dark line beyond the small cell-spot, and is limited by an irregular yellowish white space ; the rest of the wing, which is pale ochreous, is crossed by three thick lilac-grey lines, plain at costa, but lost below in an olive-green suffusion.

Underside lilac-grey, with the markings all blurred but darker ; a patch in cell of forewing, the hyaline patch, and the outer half of hindwing pale.

Thorax and dorsum lilac-grey ; vertex, collar, and antennae pale ochreous ; face rubbed ; abdomen below and at sides, and legs ochreous.

Expanse of wings : 22 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

This species differs from typical *Amaurinia* in having the hindmargins of both wings bluntly angled at vein 4, and the apex of forewing subtruncate.

73. **Amaurinia brunnea** spec. nov.

Forewing : olive-grey or ochreous ; the shading dark brown ; the costal area remaining grey ; a velvety brown shade from base along median vein, and between veins 3 and 4 ; a curved dark central fascia and the marginal area dark brown ; cell-spot round, large and black ; just before it the slender sinuous inner line is bent on the subcostal vein ; median line strongly and squarely bent outwards between veins 6 and 2, the outer line more or less parallel to it, but projecting at vein 4 ; the space between them brown ; three submarginal lines are visible in the

pale grey apical area; space preceding marginal area yellowish grey; a line of dark marginal lunules; fringe brown, with pale base.

Hindwing: without first line; the whole wing nearly uniformly brown; the lines all obscure.

Underside yellowish, thickly brown-speckled; all the lines brown and distinct; marginal area of forewing brown.

Face and palpi deep brown; vertex, thorax, and abdomen grey-brown; centre of thorax and patagia black-brown, like the basal streak of forewing.

Expanse of wings: 18 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

This comes near *A. bifilata* Warr. and *nigriplaga* Warr. (*Cambogia*) from Brazil.

74. **Amaurinia commixta** spec. nov.

Forewing: pale olive-grey, with a small blackish cell-spot and small yellow costal spots, especially towards apex, indicating the commencement of cross-lines; these are only visible along the inner margin beyond middle, where the ground-colour becomes yellow and the lines rufous grey; two of them appear again on a small yellow space beyond cell; the whole of the anal region of the wing overlaid with vinous scales; fringe bright yellow, beyond a purple crenulated marginal line.

Hindwing: olive-grey only in basal third; the rest yellow, crossed by six rufous irregular lines; of these the inner three are more or less obscured by a dull rufous suffusion; instead of the purple line before the yellow fringe a narrow purple fascia; cell-spot small, on the edge of the grey basal space.

Underside of forewing lilac-grey with the outer line yellowish; of hindwing yellowish tinged with lilac-grey, and all the lines of the same colour; fringes yellow.

Face, palpi, vertex, and collar red-brown; fillet snow-white; thorax and abdomen lilac-grey; anal segments yellowish; abdomen beneath and legs yellowish.

Expanse of wings: 20 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

Probably allied to *A. violada* Dogn., which I have not seen.

Leucoctenorrhoë gen. nov.

Forewing: costa and hindmargin curved.

Hindwing: with hindmargin strongly rounded.

Antennae of ♂ plumose; the pectinations of the outer row longer than those of the inner, as in *Anisolasia* Warr.; the apex simple. Palpi exceedingly short; tongue ill-developed; frenulum present; forehead bulged; hindtibia with two approximate pairs of short spurs.

Neuration: forewing, cell less than half of wing; discocellular vertical above, oblique below; vein 2 from just beyond middle of cell, 3 and 4 from the end; lower radial from the angulation of discocellular; upper short-stalked with 7, 8, 9; 10, 11 stalked, anastomosing with 7, 8, 9, forming a short single areole: hindwing, costal and subcostal anastomosing to near end of cell; 6, 7, and 3, 4 long-stalked; 2 from four-fifths of cell; radial from the angulation of discocellular, as in forewing.

Type: *L. quadrilinea* spec. nov.

75. **Leucoctenorrhoë quadrilinea** spec. nov.

Forewing: silky white, crossed by four pale brownish lines: the first inwardly oblique, and slightly curved from before middle of costa to one-third of inner margin; second straight from two-thirds of costa to quite two-thirds of inner margin; third and fourth submarginal, faintly marked and approximated at anal angle; fringe white.

Hindwing: without basal line.

Underside white; the costa of forewing bronzy grey.

Head, thorax, and abdomen white; antennae white; palpi black.

Expanse of wings: 26 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

Subfamily TRICHOPTERYGINAE.

76. **Dyspteris parvula** spec. nov.

Forewing: pale bluish green, with two faint whitish lines; the first, slightly curved, at one-third from base, followed by an equally faint linear whitish mark on discocellular; outer line irregularly waved from two-thirds of inner margin, running parallel to hindmargin, but not reaching costa: fringe pale green with square brown spots beyond veins; costa marked with dark beyond middle.

Hindwing: narrow, pale green, with a single whitish line just beyond middle.

Underside of forewing with basal half deeper green, containing a more distinct white cell-spot, and bounded by a white line from middle of costa, slightly oblique outwards and inbent below middle, not corresponding with any line above; costa tinged with yellow, costal edge brown, broader towards apex with white dashes: hindwing with dark green middle line, and basal half deeper green than outer.

Face, palpi, vertex, and thorax deep green; abdomen paler green with whitish segmental rings; legs green, forelegs externally fuscous with whitish joints.

Expanse of wing: 19 mm.

1 ♂ from Bartica, British Guiana.

Palpi porrect, long; antennae of ♂ pectinated in basal half.

77. **Rhopalodes perfusa** spec. nov.

Forewing: very much like *Rh. ligereza* Dogn. (*Lobophora*), but larger and darker, the whole wing suffused with dull reddish brown, especially along hindmargin, which in *ligereza* always remains olive-yellowish; the broad band preceding central fascia is more or less olive-greenish, especially along its edges, and the narrow edging beyond the central fascia is conspicuously greenish ochreous, except between veins 2 and 4, where it is abruptly obsolete; the submedian fold is marked with blackish right across the central fascia, and the inner margin below submedian vein is equally marked with the rest of the wing.

Hindwing: greyish ochreous, thickly speckled with dark grey, especially along hindmargin and on the lobe.

Underside duller; costal area of forewing tinged with reddish; submarginal line marked by a row of pale spots between the veins; cell-spots blackish.

Head greenish grey; shoulders, patagia, and thorax rufous; abdomen cinereous.

Expanse of wings: 40 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Subfamily TEPHROCLYSTIINAE.

Brabirodes gen. nov.

Forewing: elongate triangular; costa straight, becoming convex towards apex, which is blunt; hindmargin obliquely curved, longer than inner margin, and slightly crenulate; anal angle rounded off.

Hindwing: small, bluntly toothed at all the veins, that at vein 4 prominent.

Palpi porrect, long, pointed, terminal segment obscured; antennae ligulate, with uniseriate clavate teeth to beyond middle, the upper edge spinulose; tongue and frenulum present.

Neuration: forewing, cell not quite half as long as wing; discocellular vertical; first median nervule at two-thirds, second at five-sixths; radials normal; 7, 8, 9 stalked from end of cell; 10 and 11 from cell, 10 anastomosing with 11 and again with 8, 9, forming a double areole: hindwing with costal anastomosing with subcostal to near end of cell, 7 absent, coincident with 8.

Type: *Brabirodes peruviana* spec. nov.

The type-species is a wonderful mimic of the Oriental genus *Brabira*.

78. Brabirodes peruviana spec. nov.

Forewing: smooth greyish brown, darker towards apex; the costa ochreous; the two lines starting from black costal spots at one-fourth and two-thirds, dentate-lunulate, marked mainly by the black teeth on the veins, the lunules being obscure; a slight blackish cell-spot; fringe concolorous.

Hindwing: with only the cell-spot marked.

Underside with the costal spots and cell-spot of forewing marked; the apex dark grey; the costa yellowish ochreous.

Head and shoulders yellowish ochreous; abdomen like wings; patagia and thorax blackish; legs ochreous; foretarsi blackish, with paler joints.

Expanse of wings: 32 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

79. Eucymatoge albirivata spec. nov.

Forewing: dark grey or whitish grey, tinged more or less with reddish brown, the costa and space between outer and submarginal lines always red-brown; the lines white, not wavy or denticulate; basal line curved, inwardly oblique; antemedian and median, angled in cell, then oblique, parallel to basal line; outer line double, oblique, slightly bent below middle; submarginal very slender; from the angle of antemedian line a white line runs through the angle of postmedian to the outer line; the median vein is marked with white; the edges of the central fascia are marked internally by dark red dashes on the veins; the space between median and outer lines sometimes grey only, sometimes reddish; marginal area always dark grey; cell-spot black, touching median line; marginal spots black; fringe full, double; the basal half with dark grey mottling, the apical paler.

Hindwing: like forewing, but greyer, less red; the antemedian line double.

Underside dark grey, with all the white lines expressed; cell-spots velvety black.

Head, palpi, and antennae dark grey ; thorax and abdomen ochreous white ; dorsal surface brownish, with a fine central white line.

Expanse of wings : 18 mm.

2 ♂♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March ; 1 ♀ November 1902, wet season (Ockenden).

Allied to *E. linda* Dogn. ; the head grey, not white ; the lines straight, not waved.

80. **Eucymatoge decorata** spec. nov.

Forewing : whitish, shaded with reddish brown ; the lines blackish ; basal patch small, edged by a curved blackish line ; inner edge of central fascia blackish, from before one-third of costa to one-fourth of inner margin ; the interval before it filled with brownish, edged on each side by a white line ; outer edge of fascia from two-thirds of costa nearly straight to vein 4, then sinuate inwards to three-fourths of inner margin, marked with black and grey scales ; traces of brown lines along costa ; the centre of fascia whitish, with small grey cell-spot ; the fascia is followed by a band, the inner half of which is white and the outer brown ; marginal area brown ; submarginal line dentate, white ; the teeth filled in with black ; a row of black marginal dashes between the veins, connected by black white-edged bars with the teeth of the submarginal line ; fringe with inner half grey, mottled with blackish beyond veins ; outer half white ; a narrow white basal line.

Hindwing : without basal markings ; otherwise similar, but without brown tinge except along hindmargin.

Underside whitish, with the markings all distinct and grey.

Head and thorax brownish grey ; abdomen wanting.

Expanse of wings : 21 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

81. **Eucymatoge longipennata** spec. nov.

Forewing : cloudy pale olive-grey ; the outer band of basal patch, the two bands of central fascia, and the submarginal shade darker ; traces of the usual oblique lines faintly visible, those beyond the central fascia appearing sharply dentate ; cell-spot dark, obscure ; submarginal line pale, lunulate, the lunules filled up with darker ; the pale spot below veins 4 and 2 larger and plainer, as in *P. bialbata* Warr. ; marginal line fine, blackish, interrupted at the veins ; fringe olive-grey.

Hindwing : similar, the cell-spot more distinct ; the outer band of central fascia darker.

Underside glossy dark olive-grey, with the cell-spots large and black ; the postmedian and submarginal bands well defined, especially towards costa.

Head, thorax, and abdomen pale greenish ochreous ; palpi externally, frontal tuft, tips of patagia, and a broad lateral stripe on abdomen rufous.

Expanse of wings : 24 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden) ; the one in fairly good condition, the other much worn. Hindmargin of hindwing straight from anal angle to vein 4 ; palpi unusually long. Distinguished by the elongate narrow wings and rufous streak of abdomen.

82. **Tephroclystia brunneicosta** spec. nov.

Forewing: whitish grey, broadly tinged along costa with dull red-brown, this tint broadening outwards and at hindmargin reaching to vein 4; the lines are all acutely angled below subcostal vein, then inwardly oblique; central fascia broad, its inner edge sharply angled in cell before the small concise black cell-dot; the white band preceding it traversed by a grey line; inner edge formed of two, outer of three dark lines, plain on costa, marked in the paler inner marginal half of wing by dark dashes on veins; similarly the pale band following with its central line marked by a black dash between two whitish ones; submarginal line very fine, dentate-lunulate; a blackish marginal line interrupted at the veins; fringe grey, slightly darker mottled.

Hindwing: very dark grey, with dark cell-spot; the inner margin broadly reddish tinged; a faint pale submarginal line; fringe pale grey, chequered with dark.

Underside dull dark grey; lines on costa of forewing dark rufous grey, separated by pale intervals; cell-spot dark; fringe paler.

Face, vertex, and sides of shoulders dull rufous, the palpi brighter; thorax, patagia, and abdomen grey, the last tinged with reddish.

Expanse of wings: 27 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

This would seem to be related to *T. panda* Druce.

83. **Tephroclystia casta** spec. nov.

Forewing: white; the shadings olive-grey; the lines black, interrupted, starting from black costal spots; first close to base; middle and outer, forming the edges of central fascia, at two-fifths and two-thirds; these both waved, the outer projecting on veins 6 and 4 and incurved between, each preceded and followed by an olive-grey line; the broad interval between basal line and fascia traversed by an olive-grey band; the outer line is followed by a broad white band, edged externally by a grey line parallel to outer line; marginal area beyond it olive-grey, traversed by a wide crenulate white submarginal line, close to and at anal angle touching the margin; the outer line in the sinus is more thickly marked with black, and the submarginal grey shade with darker grey beyond the cell; cell-spot black; fine black marginal dashes between the veins; fringe white.

Hindwing: similar, but the outer line from inner margin to cell broadly and prominently black.

Underside of forewing smeared with grey throughout, the markings indistinct, of hindwing whitish, with the markings plainer.

Head, thorax, and abdomen white; palpi externally with some blackish scales; the abdomen in the ♂ ringed with grey, the rings forming a brownish grey blotch on third and fourth segments.

Expanse of wings: 17—19 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

84. **Tephroclystia cupreata** spec. nov.

Forewing: bronzy olive towards base, becoming dark purplish coppery in the outer half; the lines very indistinct, slightly darker than the ground-colour; a short basal line and curved extra-basal, both plainest on inner margin; a thick median line, bent in cell beyond the black cell-spot, then oblique inward, followed by a curved and waved line before the thick cloudy outer line, which is plainest on costa; an indistinct paler band with a darker central line; submarginal line very indistinct, preceded by a broad dark shade distinct on costa, filling up the teeth of the line, which are tipped externally with a pale dot, that between veins 3 and 4 with a pale spot; a patch of dark rough scales at anal angle; fringe coppery purplish.

Hindwing: similar, with all the lines cloudy; the outer band of central fascia and the basal space darker.

Underside paler and duller, with all the lines and shades indicated.

Head, palpi, and shoulders rufous ochreous; thorax and abdomen like wings; the patagia darker.

Expanse of wings: 24 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January and May 1902 (Ockenden), the latter, caught in the dry season, much worn.

85. **Tephroclystia densicauda** spec. nov.

Forewing: white; the markings olive-grey and the lines black; all very much as in *T. casta* described above, but the grey shadings darker and forming distinct grey blotches on costa, and the lines more oblique; the basal line farther from the base, and forming a strong black mark on inner margin; the dark markings beyond cell larger and more conspicuous; some grey spots instead of black dashes along margin, which is white; fringe white mottled with dark grey; cell-spot obscure.

Hindwing: with the lines grey; the outer line not prominently black at inner margin.

Underside of forewing grey-tinged, of hindwing whiter, the lines thick and fairly distinct, especially on hindwing.

Head, thorax, and abdomen white; palpi externally fawn-colour; dorsal segments tinged with brown and grey, the third and fourth segments with a broad brown and black ring.

The abdomen is very short, the anal segments thickened, squat, and sharply truncate.

Expanse of wings: 22 mm.

1 ♀ from Caradoc, Marcapata, Peru, 4000 ft., February 1901 (Ockenden).

Wonderfully like *T. casta*, but the forewings are longer, with sharper apex and more oblique hindmargin; the peculiarly shortened and thickened abdomen is also distinctive.

86. **Tephroclystia erectinota** spec. nov.

Forewing: white, with sparse grey speckling; basal patch edged by a thick black vertical line from inner margin at one-fourth, interrupted and bent on subcostal vein; central fascia with its edges starting from black costal spots;

the outer cloudy and black across wing, angled on veins 4 and 6, between which it is insinuate, thence incurved; the inner edge broken, indicated by two fine grey lines varied with brown scales; cell-spot small, near a middle grey line; bands limiting the fascia white, with a broken grey line through them, the outer band edged externally from costa to vein 4 by a black line, and followed by a brown band starting from a blackish costal blotch; above and below vein 5 this brown band is crossed by a black dash; submarginal line pale, obscure, and close to margin; a row of black marginal dashes interrupted by the pale veins; fringe white, much chequered with grey.

Hindwing: white; lines marked in black along inner margin only; outer margin grey.

Underside of forewing cinereous, darker along costa and hindmargin; of hindwing paler, with indistinct lines; both wings with cell-spot.

Head, thorax, and abdomen white, with grey dusting; third segment of abdomen with a black dorsal mark.

Expanse of wings: 17 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

The upright black bar on inner margin will at once distinguish this species.

87. **Tephroclystia magnipuncta** spec. nov.

Forewing: brownish olive, the bands ochreous, the central fascia dull blackish; the bands before and after the fascia curved and slightly waved, with an olive thread along each; submarginal line zigzag, ochreous; a short ochreous line across basal patch; in the blackish central fascia a large round black cell-spot; a row of fine black marginal dashes; fringe olive, with dark base.

Hindwing: dark olive-grey, paler along costal margin; a slight black cell-spot and pale waved submarginal line.

Underside glossy grey, with the lines slightly shown; the cell-spot of forewing plain.

Head, thorax, and abdomen dark olive; metathorax, tips of patagia, and basal segments of abdomen ochreous.

Expanse of wings: 15 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

88. **Tephroclystia nigrithorax** spec. nov.

Forewing: greyish white flushed with dull flesh-colour; the markings blackish purple; basal patch entirely blackish, crossed by a thin pale line, its outer edge projecting roundly above and below median vein; inner edge of central fascia, at one-third, angled below subcostal vein, then oblique inwards; outer edge at two-thirds, thick on costa, obliquely curved outwards and bent on vein 6, thence incurved to two-thirds of inner margin, the lines traversing the fascia waved but indistinct; the paler bands preceding and following it each with a grey thread; marginal area slightly darker grey traversed by a pale waved submarginal line, the teeth of which are filled up inwardly with blackish, and externally connected by black dashes with the black marginal line, which is interrupted by the paler

veins ; on the costa the submarginal line is preceded by a large and followed by a smaller black blotch ; fringe whitish.

Hindwing : similar, but without basal patch.

Underside cinereous; outer edge of central fascia diffusely and thickly black; the white waved submarginal line and the dark shade preceding it distinct ; cell-spots blackish.

Face and vertex white; collar, shoulders, and palpi ochreous white; thorax, patagia, metathoracic tuft, basal and anal segments of abdomen purple-black, the two middle segments of the abdomen white with a black point.

Expanse of wings : 24 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

89. **Tephroclystia pallidicosta** spec. nov.

♂. *Forewing :* grey-brown or wood-brown; the lines slightly darker, ill-expressed, and generally shown more by their paler edging ; costal streak above subcostal vein to submarginal line yellowish straw-colour, the costal half more or less darkened with olive, so that only the subcostal vein shows yellowish ; in the ♀ the subcostal vein is narrowly white, and the wing markings reappear on the costal edge ; before the middle of wing a dark line runs obliquely outwards from costa, is acutely angled in cell, and then runs obliquely inwards to before middle of inner margin, edged by a pale line; in the ♂ this line starts from the subcostal streak, which is expanded into a sort of tooth beyond the angle ; submarginal line narrow, waved, whitish, or straw-colour, and broader, more diffuse, in the latter case preceded and followed by darker shades ; an outer waved line with pale edge is generally visible at three-fourths, preceded by a dark shade; and traces of waved lines are more or less discernible in the basal and median areas, marked mainly by dark and light dots on the veins ; cell-spot black, placed close to, sometimes on, the angle of middle line; marginal line fine, black, interrupted by pale dots at the veins and often with dark dashes between them to the teeth of the submarginal line ; marginal space between veins 3 and 4 pale, in the ♀ whitish. The markings are all plainer in the single ♀ than in any of the ♂♂.

Hindwing : whitish or ochreous-whitish, sometimes dusted with darker ; an inner broadish line, three curved median lines, the outermost thickest, followed by a pale curved band with a dentate line along it; submarginal line distinctly and regularly dentate, followed by a brown marginal shade, and generally also preceded by a dentate-edged brown band ; fringe of both wings distinctly mottled brown and whitish.

Underside of forewing whitish suffused with cinereous, of hindwing less suffused ; all the markings expressed in dark grey or brownish fuscous.

Prothorax and basal half of patagia yellowish straw-colour ; shoulders, vertex, face, and palpi deeper coloured, more ochraceous, even in the ♀; metathorax brown ; abdomen in ♂ yellow, in ♀ brownish grey and white, like the hindwings.

Expanse of wings : 26 mm.

3 ♂♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, January and February 1902, wet season, ♂♂, and June 1902, dry season, ♀ (Ockenden).

90. **Tephroclystia seminigra** spec. nov.

Forewing: brownish flesh-colour; costa beyond the middle broadly blackish grey, narrowly blackish at extreme base; cell-spot large, cloudy black; the usual transverse lines not visible, except in the black costal suffusion; fringe brown, beyond a fine interrupted dark marginal line.

Hindwing: coarsely speckled with blackish and with four or five waved blackish lines; the submarginal paler; fringe blackish.

Underside cloudy grey; cell-spot and costa of forewings blackish; hindwing paler, with the lines dark.

Head, thorax, and abdomen blackish; the palpi black, triangular; anal tuft ochreous.

Expanse of wings: 14 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

Forewing triangular, with apex sharp and prominent; hindwing narrow; inner margin short; outer margin insinuate slightly beyond cell.

91. **Tephroclystia suffecta** spec. nov.

Forewing: greyish fawn-colour, below the median reddish fawn, without the grey; the usual waved lines all obscurely marked, except on costa, where they are dark grey; across the wing they are indicated by dark vein-marks, especially on the median; cell-spot black, round; submarginal line wavy, pale, preceded by a darker shade, which is slightly blackish at costa and on submedian fold; an interrupted dark marginal line; fringe pale fawn, mottled with darker.

Hindwing: costal half whitish, without markings; inner and hindmargins grey; the former with the commencement of all the lines dark grey and emphasised by blackish vein-dashes; a small grey cell-spot.

Underside of forewing dull fawn-grey, of hindwing whitish, with large black cell-spots and obscure grey lines.

Head, thorax, and abdomen greyish fawn; palpi and abdomen darker.

Expanse of wings: 26 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Of the same size and shape as *T. pimpinellata* Hüb.

92. **Tephroclystia triangulifera** spec. nov.

Forewing: delicate whitish green, crossed by a succession of wavy dentate lines, all parallel to the hindmargin, of a slightly deeper green; the submarginal line is preceded by a shade of olive-green, which fills up its lunules; the basal patch is represented by a coal-black costal streak from base, widening outwards to one-fifth; the central fascia is marked on costa by a large reddish brown triangular blotch, the inner edge of which is blackish and contains the black cell-spot; some dark marginal marks before the fringe, which is greenish.

Hindwing: with the four waved lines of the central fascia darker green than the rest of the wing.

Underside pale green, in the forewing almost wholly, in the hindwing only slightly tinged with fuscous-grey; forewing with dark cell-spot.

Head, thorax, and abdomen pale green; palpi externally rufous; dorsum rufous-tinged; forelegs dark fuscous; tarsi spotted with fuscous.

Expanse of wings: 28 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

Evidently allied to *T. acidalioides* (*Psaliodes*) Kaye, from Trinidad, but much larger; the palpi are long and roughly haired.

Thysanoctena gen. nov.

Forewing: costa straight, convex before apex; hindmargin curved: inner margin in ♀ straight, in ♂ convex.

Hindwing: of ♀ with rounded hindmargin and angles; of ♂ small, hindmargin bluntly protruding at middle, costa strongly rounded; inner margin ample.

Antennae of ♂ ciliated, of ♀ simple; palpi long, porrect, rough-scaled; abdomen of ♂ elongate, the anal sheath very long, with lateral tufts of hair beneath at the base.

Forewing of ♂ with an oval cavity below median vein near base, with thickened edges; from the upper edge a tuft of fine silky hairs, like spun glass, reaching to inner margin; base of wing before the cavity scaleless; hindwing of ♂ with veins 4 and 5 beyond cell thickened and rough with hairs.

Neuration as in *Tephroclystia*; but in forewing the cell is narrow, and vein 2 rises from the outside of the cavity; in the hindwing the cell is wide and the discocellular oblique.

Type: *Thysanoctena dormita* Schaus.

Allied to *Dochephora* Warr. and *Sebastia* Warr.

Trichoclystis gen. nov.

A development of *Tephroclystia*, with which it agrees in neuration. It is specially characterised by the presence, on the underside of the forewing of the ♂, of a long tuft of black hairs springing from the base of wing and reaching to three-fourths of inner margin, as in the Palaearctic genus *Photoscotosia*. In the ♀ the forewing is of ordinary shape and size; in the ♂ both the costa and inner margin are somewhat convex, the apex is more acute, and the hindmargin curves into the inner margin without forming a defined anal angle. The hindwing also is broader and rounder, the costa being arched. The abdomen of ♂ beneath bears along the middle segments a sort of double keel roughened with hairs. The antennae of ♂ are thickened, roughened above, and distinctly ciliated beneath. Palpi lengthily porrect, decumbent, heavily scaled, the terminal segment hidden: face below with a frontal tuft of hairs.

Type: *Trichoclystis peregrina* spec. nov.

93. **Trichoclystis peregrina** spec. nov.

Forewing: flesh-coloured ochreous, but this ground-colour, when the insect is fresh, nearly hidden by olive-fuscous suffusion; the bands of the central fascia and the marginal area deeper in tint, the narrower bands preceding and following it, the submarginal waved line, an oblique apical streak, and the central area of the fascia, especially this last, remaining slightly paler; in the pale middle space

is a strong black cell-spot ; all the lines and shades obliquely curved parallel to hindmargin ; a row of black marginal dashes ; fringe olive, with dark mottling beyond veins.

Hindwing : with similar markings but less distinct.

Underside of ♀ pale, somewhat glossy, ochreous-grey, with all the lines dark fuscous and distinct ; of ♂, especially in forewing, dark smoky fuscous, not glossy, with the markings obscure ; the tuft of hair raven-black.

Head, collar, shoulders, and abdomen flesh-coloured ochreous ; thorax and patagia dark olive-fuscous, this tint extending over the two basal segments of abdomen and darkening the dorsal crests ; the palpi sometimes tinged with fuscous externally.

Expanse of wings : 17—18 mm.

3 ♂♂, 3 ♀♀ from Santo Domingo, and 1 ♀ from R. Inambari, Carabaya, S.E. Peru, 6000 ft., November 1901 and 1902 (Oekenden).

The pale band beyond central fascia frequently joins the pale oblique streak from apex ; in one ♀ the olive-ochreous ground-colour is predominant, especially along inner margin, and the dark markings are more or less obsolete.

Subfamily HETERUSIINAE.

94. **Erateina coeruleopicta** spec nov.

Forewing : olive-black, sprinkled with blue scales ; a hyaline white bar beyond cell as in *cynthia* Dbld. and *discalis* Butler, but no white streaks or scales on inner margin ; the fringe only of inner margin bluish white.

Hindwing : with the dark area before the white blotch and along inner margin thickly sprinkled with blue scales and clothed with bluish hairs.

Underside dull red dusted with yellow ; the white bar continued upwards to costa and downwards as a thin curved bluish white streak to inner margin ; a silvery white mark on discocellular and streak along submedian fold ; inner margin dull greyish olive with a streak of pale scales along submedian vein ; hindwing with the blotch broadly white, attenuated to costa and inner margin ; the lobe white with two red blotches.

Expanse of wings : 30 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

95. **Heterusia binotata** spec. nov. and ab. **suffusa** nov.

Forewing : black ; the cell white, forming, with a white triangular spot between 2 and 3, a rostriform blotch ; a narrow white transverse mark before apex from vein 7 to 4, crossed by veins 5 and 6 ; an indefinite whitish streak from base along submedian vein to centre ; fringe black.

Hindwing : white, with costal and hindmargins black, the latter more broadly, and containing a white mark from vein 6 to 4, corresponding to the white subapical mark of forewing, suggesting a pale submarginal band, which is more or less visible towards anal angle ; inner margin narrowly black.

Underside similar, but the white markings all intensified, the streak along submedian vein of forewing nearly reaching anal angle ; the subapical white spots large and oval ; a distinct white spot before anal angle of hindwing and a small mark in the middle of costal border.

Head and palpi black ; face dull whitish ; collar and front of pectus bright yellow ; thorax black ; abdomen cinereous, whitish beneath.

The form above described is the palest ; another ♂ has the white rostriform blotch of forewing invaded by smoky blackish scales, the submedian streak almost obsolete, and on the hindwings the veins black, the inner margin more thickly black, and black scales running up along the veins ; but the underside is as white as in the type form.

The aberration *suffusa* differs greatly : in the forewing the rostriform blotch and the subapical spot, which is much larger, are both yellow, the base of cell being also overlaid with black scales ; in the hindwing the subapical spot is of ordinary size and only faintly yellowish, but the whole wing is suffused with smoky black, the veins and marginal borders being denser black. Beneath, the two blotches of forewing are yellowish, and the submedian streak white ; the hindwing is nearly normal, but has all the veins thickly black, and the white marginal blotches all large and well developed.

Expanse of wings : 34 mm.

3 ♂♂ from Upper River Toro, La Merced, Peru, 3000 m., August, September 1901 (Simons).

96. **Heterusia clarimargo** spec. nov.

The counterpart of *H. salvini* Butler, but rather smaller, 30—32 mm. in expanse instead of 35 mm. *Salvini*, however, has in the hindwing a blackish border running irregularly from the dark apical area to the anal angle ; this is entirely wanting in *clarimargo*, but its place is taken by a few bright vinous scales.

7 ♂♂ from Juan Vinas, Costa Rica (Underwood).

97. **Heterusia tessellata** spec. nov.

Forewing : black, the markings pale primrose ; three costal streaks, at one-sixth, one-third, and two-thirds respectively ; three streaks from base, one short below costa, one along median vein, and one quite narrow along submedian vein ; the first and second costal streaks and that along median run into an elongated blotch, obliquely placed, lying partly in cell and partly on each side of vein 1 ; fringe black with pale primrose mottlings above middle.

Hindwing : primrose, with broad black hindmargin and narrower inner margin ; costa with three black blotches, indicating three bands ; first at base, with another beneath it, forming a basal patch ; second acutely triangular, continued as three separate black spots to middle of inner margin ; the third quadrate with a small blotch below it, and four more in lower half of wing ; these blotches lie between the veins ; fringe black, broadly mottled with primrose, wholly primrose round apex.

Underside of forewing with the pale markings much developed ; a fourth costal streak beyond the third ; a yellow marginal line from apex to vein 3, the yellow mottlings of the fringe produced inwards across marginal line as acute teeth ; veins 6, 7, 8 shortly yellow to apex : hindwing yellow, with four black curved bands, cut up by the yellow veins into irregular-shaped spots ; the spots of the marginal series in the shape of a magnet with the yellow vein at centre.

Palpi internally black, externally primrose ; face black, hairy ; fillet primrose ; vertex, antennae, shoulders, patagia, thorax, and abdomen black ; tips of shoulders

and patagia primrose ; abdominal segments finely edged with primrose, the yellow edges widening laterally ; legs and pectus black and primrose.

Expanse of wings : 28 mm.

2 ♂♂ from Huancabamba, Cerro de Paseo, Peru (Böttger).

Intermediate between *preciosa* Mssn. and *liturata* Warr.

Oreonoma gen. nov.

Agrees with *Apodroma* Warr. in having a double areole in forewing, while that in *Heterusia* is single ; but the antennae are bipectinate, not simply serrate ; the pectinations club-shaped, swollen at apex ; the face, pectus, and femora are all densely hairy.

Type : *Oreonoma submarmorata* spec. nov.

98. **Oreonoma submarmorata** spec. nov.

Forewing : dull olive-black ; costa with a few small white specks and three cream-coloured streaks, the first minute, close to base ; the second, oblique outwards, at one-third ; the third at two-thirds, vertical, ending in a slight rounded knob ; fringe mottled with white.

Hindwing : without markings ; fringe scarcely mottled.

Underside of forewing olive-fuscous, frosted with whitish, more coarsely along costa and hindmargin ; the three costal streaks larger and whiter, the last giving rise to an obscure bent outer line ; a dull brownish olive space at apex, speckled with white ; fringe mottled ; hindwing blackish olive, coarsely speckled with ochreous and white ; two broad ochreous white sinuous interrupted bands with deeper edges ; marginal area brown.

Head, thorax, and abdomen olive-black, with sparse slight pale scales ; abdomen whiter beneath ; legs black with white spots ; pectus and femora with short white woolly hairs ; head and face hairy.

Expanse of wings : 26 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

Subfamily EUCESTIINAE.

99. **Callipia admirabilis** spec. nov.

Forewing : rose-pink, becoming cream-white tinged with pale brown along hindmargin ; costa above subcostal vein broadly white, with four groups of velvety black striae, at base, before and beyond middle, and subapical ; the last the largest, forming part of a large patch of black striae extending from cell nearly to hindmargin above vein 4 ; fringe white with black lunules between the veins.

Hindwing : pink ; with a broad band of black striae at base and a broad black submarginal band formed of coalescent striae ; the extreme margin white, before the black lunules of the fringe, which are more developed than in forewing.

Underside brighter ; the costal striae blacker ; the pale hindmargin washed with olive, leaving the veins white ; hindwing with ground-colour pinky white, the black striae all on a brown ground.

Head, palpi, antennae, thorax, abdomen, and legs all black ; back of collar crimson ; shoulders and patagia rosy ochreous ; fourth segment of abdomen ringed with ochreous, the sides with ochreous patches ; hindfemora bright rosy.

Expanse of wings : 65 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

A remarkably beautiful insect.

100. **Callipia languescens** spec. nov.

Forewing : deep rosy; costal and marginal areas greenish luteous ; the costa with numerous irregular blackish striae; an oblique black blotch on discocellular, broader at top; a broad blackish submarginal band from inner margin just before anal angle to vein 6, diverging from hindmargin, from 6 bent outwards to apex ; the edges of this band are reversely lunulate; fringe luteous, above vein 6 rufous grey.

Hindwing : rosy ; the hindmargin luteous, preceded by a black fascia, of which the outer edge is nearly straight, broader at inner margin and broken up at apex ; fringe luteous, black at apex and anal angle.

Underside of forewing like upper, but brighter, the costa and apex brown-tinged ; inner margin paler ; the veins blackened across submarginal fascia ; hindwing suffused with pale brown ; a deep brown triangular patch from base of inner margin embracing lower half of cell and reaching to three-fifths of wing ; a similarly rich brown submarginal band ; both these brown areas traversed by pale linear striae ; costa at base marked with brown-black striae, partly confluent ; marginal area and fringe luteous ; fringe of inner margin bright rosy.

Head, palpi, and thorax black ; shoulders and patagia luteous yellow ; abdomen luteous with broad black belts, the anal segments wholly blackish ; underside of abdomen and legs black ; all the femora spotted with crimson.

Expanse of wings : 54 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

This species and the preceding are most nearly related to *C. parrhasiata* Guen.

101. **Cophocerotis argentistriga** spec. nov.

Forewing : dull fawn-brown, olive-tinged ; the costal area above subcostal vein and the fringe both a little paler.

Hindwing : similar.

Underside of forewing darker ; the costa and apex paler olive-brown ; interval between veins 7 and 8 with a broad white stripe, a shorter one below 7, and a fine one above 8 ; marginal line preceded by some white scales ; basal half of fringe whitish tinged : hindwing wholly paler olive-brown ; all the intervals with broad white stripes, that in the upper half of cell continuous to hindmargin ; a continuous white line before hindmargin ; fringe with the tips pale.

Head and palpi brown frosted with white ; antennal shaft white, the pectinations dark ; thorax olive-brown ; abdomen cinereous brown, with a dull red tinge along the sides, and mixed with white beneath ; legs fawn, speckled with pale.

Expanse of wings : 35—38 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

The wings are narrower and more elongated than in the other species.

102. **Cophocerotis ebria** spec. nov.

Forewing : dull smoky fuscous ; costal area speckled with dull red, the base wholly reddish ; fringe fuscous ; an obscure dark cell-spot.

Hindwing : slightly paler ; fringe fuscous.

Underside of forewing olive-fuscous; costal area and the apex broadly chequered with red and fuscous: hindwing much paler, reddish sprinkled with fuscous; a diffuse smoky dark fuscous band from inner margin above anal angle towards apex, which it does not reach.

Face, vertex, and palpi olive-fuscous, with a few reddish scales; shoulders and patagia reddish like base of costa; abdomen olive-cinereous, basal segment paler, olive-ochreous; antennae pale ochreous yellow.

Expanse of wings: 37 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Differs from *C. sobria* Warr. in having no trace of pale outer line either above or below. The antennal pectinations are much shorter than in the other species, being reduced to mere stout pubescent serrations.

103. **Cophocerotis margaritacea** spec. nov.

Forewing: satiny white, with a slight grey tinge from the underside; costa with four large olive blackish blotches, separated by pale spaces, all increasing in size towards apex, the edge of the dark areas finely speckled with pale, the last one before apex with a white tooth in middle; fringe white with concise black chequerings beyond the veins.

Hindwing: without markings; the fringe with black dots only and one spot at apex.

Underside pale green with the last costal blotch velvety black, the four blotches produced as dull olive-brownish coalescent fasciae across wing, the last interrupted between 4 and 6 by a rosy brown tinge marked with black at hindmargin; fringe with velvety black mottlings: hindwing with three widely interrupted olive-brown fasciae, represented by three elongated blotches on inner margin, and two above middle, the outer one isolated, the middle touching costa and angled below.

Palpi and anal tuft of abdomen black; face, vertex, thorax, and abdomen greenish white; antennae speckled black and white; abdomen below and femora black mixed with pale green; tibiae and tarsi rufous ochreous; pectus and sides of shoulders black.

Expanse of wings: 37 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

104. **Cophocerotis submuscosa** spec. nov.

Forewing: blurred grey, with a slight pink tinge, which is more evident along costa and at apex; costal edge with fine black specks; costa with three pale streaks, indicating so many lines; first at one-sixth, not developed; second at one-third, edged outwardly with dark, the line from it obscure, bent in cell, then straight to inner margin, forming the inner edge of an ill-defined central fascia; outer line pale with dark inner edge, from two-thirds of costa to two-thirds of inner margin, outbent from vein 6 to 2; a slight dark cell-mark; apical area deep dull rosy, striated with dull grey; fringe deep, the inner half dull rosy, the outer yellowish white, with double black mottlings beyond veins.

Hindwing: with blurred and indistinct grey mottlings on a dull pink ground; the outer line pale and distinct throughout, the inner more or less obscured; traces of a pinkish waved submarginal line; cell-spot dark grey; fringe dull luteous with black mottlings.

Underside of forewing blurred olive-brown; costal area olive-green with black speckling and a few pinkish scales below; outer line marked at costa by a curved pinkish white streak with black inner edge; on hindmargin below apex a large patch of green scales: hindwing, a medley of green, black, and ochreous scales on a flesh-coloured ground, the green forming streaks along the two folds and along hindmargin; the lines ochreous, ill-defined, except on inner margin, accompanied by black shading; at apex a patch of dull plumbeous scales.

Palpi black; antennae black speckled with white; face yellowish ochreous; collar rosy and black; thorax black; shoulders olive-green; patagia rosy luteous; abdomen dull flesh-colour, the anal tuft black; legs black spotted with flesh-colour.

Expanse of wings: 44 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

As in *C. argentistriga*, the difference between upper and underside of wings is noticeable.

105. **Eudule arctiata** spec. nov.

Forewing: deep red, with numerous irregular black blotches; seven oblong black blotches along costa, the second, fourth, and sixth shorter than the others, separated by white streaks; the basal blotch reaches inner margin; the fourth has a narrow, elongated blotch below it above the median; below the median a diamond-shaped blotch below the third costal blotch, followed by three lying in a curve and two beyond cell below the sixth blotch; three submarginal blotches and two marginal, one subapical, the other between 3 and 4; three smaller spots below submedian vein and one or two close to hindmargin; fringe black.

Hindwing: red, with base and outer margin narrowly black; a black cell-spot; fringe of outer and inner margin black.

Underside similar, some of the markings of forewing showing through only.

Head and thorax black; abdomen yellow with black segmental rings, the anal segments marked with white below; basal segment of palpi and pectus white; legs bronzy black spotted with white.

Expanse of wings: 19 mm.

1 ♂ from R. Slucuri, S.E. Peru, 2500 ft., June 1901, dry season (Ockenden).

Nearest to *E. leopardina* Druce.

106. **Eudule simulans** spec. nov.

Forewing: deep orange; the costa shortly at base and the whole inner margin narrowly black; apex of wing black beyond a line running straight from two-thirds of costa to hindmargin just above vein 2; fringe black.

Hindwing: black, more smoky towards anal angle; an orange costal streak.

Underside like upper.

Head, thorax, abdomen, and legs all black; tarsi beneath paler.

Expanse of wings: 34 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

Neodezia gen. nov.

I propose this name for *Odezia albovittata* Guen., a species which I erroneously made the type of *Trichodezia* (*Nov. Zool.* ii. p. 119), so named from the presence of a tuft of hair on the underside of forewing, which *albovittata* lacks; in its stead

haberhaueri Led. must stand as type. The two species agree with each other in having the areole of forewing simple, and the discocellular of hindwing oblique, but are distinguished by the presence or absence of the tuft. From *Cosmorhoë* Hüb., with which it agrees in neuration, *Neodezia* is separated by the much slenderer thorax and abdomen, as well as by the difference in markings. *Odezia tibiale* Esp. has the areole of forewing double, and the discocellular of hindwing biangulate. With this neuration *Baptria exsecuta* Feld. agrees, but differs, as *haberhaueri* does from *alborittata*, by the possession of the tuft of hair, which *tibiale* is without.

In one of three ♂♂ of *alborittata* Guen., taken in North Vancouver, May 1902, by the Hon. N. Charles Rothschild, a curious instance of irregular neuration occurs. Normally vein 11 parts from 10 shortly before the anastomosis of that vein with 8, 9; in this particular case it anastomoses, coincidently with 10, with 8, 9, and much more strongly than usual, the two veins again separating coincidently from the stalk of 8, 9, and parting from each other towards the costa. The neuration is identical in both forewings.

Subfamily PALYADINAE.

107. **Opisthoxia casta** spec. nov.

Forewing: white; a broad brown-grey stripe below costa, its edge running from near base of inner margin, of even width except towards hindmargin, where it becomes broader, traversed by innumerable whitish ripples, the costal edge remaining pure white; fringe white below vein 4, brown above it.

Hindwing: pure white along costa, the rest of the wing finely speckled with purple; near before the apex a short metallic streak from costa to vein 7, there forking and thinner, the two branches concave inwards, reaching the cell-fold and filled up with yellowish round an embossed spot of black and metallic scales; a small submarginal silvery round spot above vein 4, continued as silvery streaks along margin to anal angle; fringe above middle white, fawn-coloured below.

Underside dull white; the tip of forewing dark grey; thorax brown-grey; collar and shoulders whitish; palpi externally fawn-colour; face rubbed, probably fawn-colour too; abdomen white.

Expanse of wings: 41 mm.

1 ♀ from Huatuxco, Vera Cruz.

The brown belt of forewing shows no traces of cross-lines; the colouring and ornamentation of the hindwing is much restricted.

108. **Opisthoxia laticlava** spec. nov.

Forewing: white, with a broad chocolate-brown band from base to outer margin, its lower edge slightly curved from one-fourth of inner margin to below vein 4 on hindmargin, the costal area irregularly whitish, and the band itself traversed by whitish striae, with traces of darker curved bands at one-fourth, one-half, and three-fourths; fringe brown above, white below.

Hindwing: with base narrowly brown, followed by a pure white belt; metallic submarginal streaks between veins from anal angle to vein 4, above which there is an irregular metallic blotch, from which a metallic line runs obliquely to costa before apex, is narrowly curved, and returns, parallel to its former course and thickened, to below vein 5, the included space olive-fulvous and containing below an oblique oval ocelloid blotch, velvety black in a yellow ring, the metallic boss

being situate at the lower end; the interior of the wing white, finely dusted with chocolate atoms; marginal area below middle yellowish, with the fringe beyond it grey, the fringe above middle white.

Underside white; forewing with a black apical blotch narrowing to below vein 4.

Palpi white, tinged externally with pale brown; face and vertex white; collar, shoulders, patagia, thorax, and two basal segments of abdomen brown, somewhat varied with whitish hairs; rest of abdomen white, with a slight grey tinge.

Expanse of wings: 48 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

109. **Opisthoxia vigilans** spec. nov.

Forewing: cream-white, the costal half of wing fuscous, the edge of this fuscous area running from one-sixth of inner margin to hindmargin at vein 4; the fuscous ground is formed by dense striations which are actually coalescent below, but become less dense towards costa, which is whitish with fuscous striae from base to beyond middle, where it is broadly clear white; traces of darker transverse shades across the fuscous band from below each end of this white blotch, and of two or three antemedian blotches on the edge of the band; towards the apex the pale striae of the fuscous band are yellowish, and there are two patches of bluish silvery scales, one below costa on vein 8 some little way before hindmargin, the other above vein 4 close to hindmargin; fringe fuscous from apex to vein 3, then white.

Hindwing: with short basal fuscous streak; an olive-tawny triangular blotch towards apex, bounded below by vein 4, its inner edge vertical at middle of wing, its outer oblique; the costal and lateral edges of this patch are broadly overlaid with metallic greenish scales, and there is an oval thicker patch of the same at the angle on hindmargin, before which there stands a patch of brick-red scales; in the centre of the blotch a large ocellus, the outer ring ochreous, the centre velvety black, with an outer metallic ring; from anal angle to vein 4 an olive-grey marginal band with patches of silvery blue scales between the veins; costal area, a band beyond the basal fuscous streak, and the apical area beyond the triangle pure white, the rest of the wing speckled with purplish scales; fringe grey from anal angle to vein 4, then white, the white portion with a yellow basal line.

Underside of forewing white, with a dull blackish apical patch and some dark striae in cell and beyond, and also along costal edge: hindwing with a grey border, narrower and submarginal from costa to middle, broader and marginal below; fringe in both wings grey, becoming white beyond the white ground-colour.

Head, thorax, and first segment of abdomen fuscous, speckled with whitish; rest of abdomen white, speckled with purplish like hindwing; abdomen beneath and legs white; antennae, palpi, and front of forelegs fuscous.

Expanse of wings: 44 mm.

1 ♀ from Bulim N.W. Ecuador, 160 ft., January 1901 (Flemming & Miketta).

Subfamily ABRAXINAE.

110. **Abraxas transvisata** spec. nov.

Forewing: white, semi-transparent, with numerous pale brown partially coalescent spots; a broad pale brown costal streak; the veins finely brown; a brown spot on upper half of discocellular; a row of semicircular spots along

hindmargin between the veins ; fringe white ; the narrow submarginal area is white without any spots, and the cell and space beyond are less thickly dusted ; before apex a pale brown streak on costa.

Hindwing : without spots, except the cell-spot, a submarginal row on the veins, and the marginal spots as on forewing.

Underside like upper.

Palpi blackish ; face and vertex white ; shoulders yellow ; thorax and patagia whitish with large black spots ; abdomen yellow with dorsal and lateral rows of smaller spots.

Expanse of wings : 52 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

This is, I believe, only the second species of the Old-World genus *Abraxas* yet known from S. America.

M. Dognin described the first, *A. estriada*, from Chiriqui.

Subfamily BRACCINAE.

111. **Devarodes subtincta** spec. nov.

Forewing : velvety black, the fringe whitish ; from the centre of the base a dull whitish space extends between the median vein and submedian fold, expanding in middle of wing into a clearer white round blotch, occupying the lower half of the end of cell and embracing the origin of the three median nervules.

Hindwing : pale sulphur-colour for three-fifths, with a broad velvety black border from apex to anal angle.

Underside of forewing with the white basal patch reaching inner margin, and bordered by a velvety black band, starting from base of cell and curving round twice as broad as at its origin into anal angle ; the basal half of costa and the apical area remaining dull white, the veins black : hindwing pale yellowish with outer border smoky grey, the veins black.

Palpi black ; face blackish with the sides whitish ; vertex black with a white spot in middle ; a white mark behind the eyes ; shoulders black with the tips white ; patagia black with the tips and inner edge white ; thorax black ; abdomen with dorsal streak, segmental rings, and anal segment black, the sides and underneath white ; legs white beneath ; antennae black, with the shaft at middle white.

Expanse of wings : 35 mm.

1 ♂ from Upper River Toro, La Merced, Peru, August, September 1901 (Simons).

Allied to *bubona* Druce and *subcaria* Wlk.

112. **Sangalopsis velutina** spec. nov.

Forewing : deep velvety black ; a large red blotch with curved sides beyond cell, broadening downwards, crossed by veins 2 to 6.

Hindwing : wholly black ; fringes black.

Underside of forewing with the red blotch as above and the disc velvety black ; all three margins and the apex broadly paler ; the last with a dull sheen in certain lights : hindwing smoky blackish, the veins deeper ; the hindmargin

paler beyond a dark band, which is itself preceded by a broader but less distinct paler space.

Head, thorax, abdomen, and legs all black, with no trace of red.

Expanse of wings: 44 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

Subfamily NEPHODIINAE.

113. **Astyochia membranacea** spec. nov.

Forewing: pale silky ochreous hyaline; the veins hardly darker; costal area, apex, and hindmargin slightly darkened with luteous grey; costal edge and fringe darker; discocellular blackish.

Hindwing: with a dark cell-spot on upper half of discocellular only.

Underside somewhat darker; wings slightly clothed with dark hairlike scales; cell-spots blackish.

Palpi and forelegs fuscous; face and vertex whitish; thorax and patagia grey; abdomen whitish, with some blackish scales.

Expanse of wings: 34 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

114. **Fulgurodes subnotata** spec. nov.

Forewing: dirty grey; the veins darker; a dull smoky grey cloud from costa near base; a dull fuscous band from three-fifths of costa outwardly curved into anal angle, where it becomes very broad; the apex grey; marginal edge, especially between veins 3 and 4, paler; fringe fuscous, paler between 3 and 4; cell-spot linear, fuscous.

Hindwing: with the veins brown; the hindmargin diffusely fuscous, broader at apex and anal angle; a dark line from before middle of costa to before middle of inner margin, forming a rounded projection between veins 3 and 4 beyond lower angle of cell.

Underside of forewing dull grey to outer line, which is black at costa, and cloudy below; marginal area whitish; a thick brown submarginal band from costa to middle, its outer edge lunulate-dentate; some marginal dark clouds; fringe and veins fuscous: hindwing wholly whitish, the veins fuscous; a fuscous patch at base along inner margin, a large patch at anal angle and below apex; the line of the upperside strongly marked, thickened at margins; a zigzag marginal and cloudy interrupted submarginal line.

Head and thorax dull grey; abdomen whitish ringed with dark; antennae blackish.

Expanse of wings: 35 mm.

1 ♀ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

115. **Heteroleuca apicilineata**.

Nipteria apicilineata Dogn., *Ann. S.E. Belg.* 1893, p. 86. ♂.

The ♂ of this species has the short stiff pectinations, thickened towards their apices, that characterise this genus, as well as the angled discocellular of

forewing. A third difference in structure, which had escaped me before, is the absence of the foveal bar in the forewing.

The ♀ of *apicilineata* has a repetition on the hindwing of the brown streak of forewing ; though not so strongly marked, it is quite conspicuous, and runs from below middle of inner margin to near the end of vein 6.

These observations are made from a pair from Santo Domingo, Carabaya, S.E. Peru, November 1902 (Ockenden).

116. **Nipteria basiplaga** spec. nov.

Forewing : blurred grey, except along costa, apex, and hindmargin, which are striated and speckled with fuscous, the apex and hindmargin somewhat darker ; costa at base blackish ; an oblique black costal blotch at one-third, from which a very obscure curved line runs to inner margin near middle, marked by dark spots on veins ; a transverse black cell-spot ; outer line straight and oblique, hardly marked itself except at costa, where it is preceded by a black spot, but indicated by black dashes on veins, reaching inner margin just beyond middle, close to inner line ; fringe grey, slightly darker beyond veins.

Hindwing : striated throughout, with dark cell-spot and curved line just beyond middle showing through from underside.

Underside bright pale ochreous, with the markings and striae black and distinct, like those of the upperside ; cell of hindwing with a black blotch at base.

Head and abdomen grey, the latter with black segmental rings ; palpi, shoulders, and patagia black-brown ; antennae black.

Expanse of wings : 52 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

117. **Nipteria dispansa** spec. nov.

Forewing : pale grey with a slight luteous tinge ; the costal area somewhat paler and more luteous, thickly striated and spotted with dull smoky blackish ; some finer striae in the cell, and a greyish dusting at apex and along hindmargin ; two dull blackish lines ; the first from one-fourth of costa to one-third of inner margin, sharply angled on subcostal vein, thence nearly vertical ; outer line from three-fifths of inner margin oblique with a slight curve outwards to three-fourths of costa, becoming indistinctly double above median and diffusely forked on costa ; fringe mottled light and dark grey.

Hindwing : thickly but obscurely striated with smoky grey, with two smoky dark lines, starting from a point below middle of abdominal margin, then diverging, and approximating again at three-fourths of costa ; fringe mottled.

Underside tinged with pale brownish ; forewing with marginal area pale, with fine dark speckling ; from base to outer line much darker, towards costa with coarse black-brown striae ; the oblique line black-brown : hindwing with coarse black speckling, the two lines and the veins between them black-brown.

Palpi black ; face whitish ochreous ; vertex, thorax, and patagia luteous grey ; abdomen whitish with dark segmental divisions ; antennae black with pale basal segment ; legs all blackish.

Expanse of wings : 39 mm.

1 ♂ from Chanchamayo, June—August 1901 (Hoffmanns).

118. **Nipteria exclamationis** spec. nov.

Forewing: blurred luteous grey, the costal area clear, pale luteous, thickly mottled with blackish, towards base wholly blackish; hindmarginal area grey mottled with darker; a cloudy blackish cell-spot; a blackish outer line from three-fourths of costa parallel to outer margin, thick and distinct to vein 4, then obsolescent and marked faintly only on the veins; fringe grey mottled with darker.

Hindwing: mottled with dark fuscous throughout, with a curved postmedian line, a large spot on discocellular, and another in middle of cell showing through from underside.

Underside with all the markings much darker and more distinct; the spot in cell of hindwing elongate.

Head, thorax, and abdomen luteous grey; shoulders and patagia marked with darker; segmental divisions of abdomen fuscous; legs dark fuscous.

The ♀ is altogether paler, both in ground-colour and markings. The position of the outer line seems variable; in one ♀ it rises only just before apex and in the hindwing is at two-thirds; in another it rises at four-fifths, only a little nearer margin than in the ♂.

Several examples from Santo Domingo, Carabaya, S.E. Peru (Ockenden).

Closely related to *N. nigrisignata* Warr.

119. **Nipteria nigrisignata** spec. nov.

Forewing: greyish white with a brownish tinge; along the costa somewhat paler, more ochreous, and coarsely striated with black; a black blotch from base, and a large irregular curved blotch at three-fourths of costa, the lower pointed end reaching vein 5; from it can be traced a faint oblique line to three-fifths of inner margin, edged by a paler space; marginal area diffusely smoky brown with darker transverse striae; cell-spot large, black; fringe grey, with darker patches beyond the veins.

Hindwing: wholly speckled with fuscous, the marginal area and fringe as in forewing; a smoky black cell-spot, a larger blotch in cell before it, and a bent interrupted line beyond it showing through from underside.

Underside brighter, more ochreous-tinged; forewing with base of costa, cell-spot, and subapical blotch velvety black; hindwing with large blotch at base and middle of costa, cell-spot and blotch in middle of cell, and a blotch below vein 2 velvety black.

Head, palpi, and patagia black; thorax and abdomen like wings, the segments of abdomen marked with black and broadened laterally; abdomen beneath whitish, black-speckled; legs all blackish.

Expanse of wings: 48 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

120. **Nipteria occulta** spec. nov.

Forewing: semi-transparent, smooth pale grey, unspeckled; the costal and apical areas suffused with brownish grey and dark-speckled; a small blackish cell-spot; from just before the apex, where it is followed by a small pale spot, a dark oblique line, marked by black dashes on veins, runs to vein 6, is deflected

inwards and becomes obsolete ; from the same costal point another line runs vertically to vein 6 and there stops, this latter being a line showing through from beneath ; fringe brown-grey.

Hindwing : pale grey, dark-speckled, and towards apex tinged with darker grey ; a small blackish cell-spot, and traces of a transverse line showing through from the underside, from below middle of inner margin towards apex ; fringe spotted with dark.

Underside darker, the speckling black, the tint browner ; outer line of forewing black and distinct to vein 4, and marked by dots on veins 3 and 2, followed by a pale fulvous subapical tint : hindwing with a lunulate-dentate line from the submedian fold straight to vein 6, then upturned to costa before apex.

Head, thorax, and abdomen dingy grey.

Expanse of wings : 40 mm.

1 ♂ from River Inambari, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

121. **Nipteria pallida** spec. nov.

Forewing : cream-colour, with slight brownish speckling ; two blackish lines ; the first curved, from one-fourth of costa to one-third of inner margin ; the outer nearly straight, from six-sevenths of costa to three-fifths of inner margin ; the latter is followed by a line of blackish spots on the veins, which becomes obsolescent below middle ; cell-spot blackish ; the apex and hindmargin tinged with bronzy grey ; fringe bronzy grey.

Hindwing : with dark cell-spot, curved, thin, and slightly wavy postmedian line, and obscure row of spots on veins ; fringe pale with dark spots at veins.

Underside very similar, but all the markings and speckling much darker.

Palpi externally and antennae blackish ; head, thorax, and abdomen cream-colour ; shoulders laterally and base of patagia brownish.

Expanse of wings : 38 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March—April 1902, wet season (Ockenden).

Distinguished at once by the coloration.

122. **Nipteria partita** spec. nov.

Forewing : pale biscuit-colour along costa, hindmargin, and broadly at apex ; the costal area above subcostal vein thickly striated with olive-fuscous, and with a fuscous streak at base ; the striations beyond cell reaching vein 6, the marginal area merely speckled ; the rest of the wing blurred ochreous without speckling ; cell-spot fuscous ; at one-sixth of costa an oblique fuscous streak, bent in cell, then oblique, but obsolete below median, represents the inner line ; at five-sixths an oblique fuscous line from costa towards middle of inner margin is visible as far as vein 4, then becomes almost obsolete and curves outwards ; fringe olive-fuscous throughout, spotted with dark.

Hindwing : wholly ochreous ; freckled with fuscous along hindmargin ; a fuscous cell-spot, and straight dark line from three-fourths of inner margin to three-fourths of costa ; fringe dappled, ochreous and fuscous.

Underside deeper ochreous, thickly speckled and tinged with olive-fuscous, except the inner marginal half of forewing, which is quite pale ochreous without

speckling; forewing with costal streak at base, cell-spot, outer line, and fringe dark olive-fuscous; hindwing with marginal half beyond the dark transverse line suffused with olive-fuscous.

Palpi and basal half of patagia olive-fuscous; head, thorax, apical half of patagia, and abdomen pale ochreous; all the legs fuscous.

Expanse of wings: 45 mm.

1 ♂, 1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

In both wings the hindmargin is slightly elbowed at vein 4, the forewing being also indented below apex. The species is related to *N. dispansa* Warr.

123. **Nipteria sibylla** spec. nov.

Forewing: olive-black; a broad oblique white blotch from below costa at two-fifths to vein 1 at three-fourths, rounded below, its outer edge bluntly bent at vein 3; the costa olive-grey across its upper end and the subcostal vein black across it; a smoky grey costal streak at two-thirds, broadened on the costal edge, in one example with two whitish spots below it; marginal space somewhat paler, preceded by an obscurely pale zigzag line; fringe olive-brown in basal half, whitish in outer half, with thick black mottling beyond veins.

Hindwing: wholly dark, with cell-spot and postmedian line showing black from the underside; fringe as in forewing.

Underside browner; the white blotch of forewing entire, and recurved to inner margin, edged with black, as is the pale streak from two-thirds of costa; marginal area much paler and greyer: hindwing with large cell-spot, waved postmedian line, and all the veins black; a zigzag pale submarginal line; a pale spot at base of cell; fringes pale, spotted with black beyond veins.

Head, thorax, antennae, and legs smoky black; abdomen somewhat paler, more whitish below.

Expanse of wings: 52 mm.

4 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

Closely allied to *aethiopissa* Dogn. and *sororcula* Dogn., as large as the former, but apparently marked more like the latter.

124. **Nipteria trisecta** spec. nov.

Forewing: pale smoky grey in the basal and marginal fields, whitish in the centre; this central area is narrow and dead white at the middle of costa, widening out and whitish, semi-transparent, below vein 5; the edges lunulate-dentate, the teeth in both directed inwards, the inner at one-third, the outer at three-fourths; a small whitish spot on costa before apex; the grey of the basal and outer areas becomes deeper along costa: cell-spot dark, linear, lying on the outer edge of the pale space; fringe dark grey.

Hindwing: wholly dull pale grey, with a waved postmedian darker line, beyond which the marginal area is slightly darker; an obscure round grey cell-spot; fringe dark grey.

Underside dull grey, darker towards costa of forewing, at the middle of which is a white flattened figure-of-8-shaped blotch; from the subapical white spot a faint submarginal line descends to inner margin before anal angle: hindwing with dark median band.

Palpi and antennae dark grey; face dull white; thorax and abdomen pale grey, the latter ringed with darker.

Expanse of wings: 35 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

125. **Nipteria unilinea** spec. nov.

Forewing: dull greyish ochreous, more clearly ochreous along costa and beyond the outer line; the whole with fine fuscous striae, which are plainest and densest in the ochreous portions; base of costa fuscous; a bent inner line is hardly traceable from one-fifth of costa to one-third of inner margin; a blackish, inwardly diffuse, straight oblique line from three-fifths of inner margin to costa shortly before apex; cell-spot cloudy, blackish; fringe brownish.

Hindwing: with small dark cell-spot and slightly sinuous dark postmedian line, which is indistinctly double; fringe pale.

Underside brownish ochreous, thickly freckled with fuscous; inner area of forewing semi-transparent dark grey without ochreous tint or dark speckling; the lines and cell-spots distinct; the line of hindwing plainly double; a black spot at base of cell.

Palpi and legs black; head and thorax pale ochreous; abdomen greyer; outside of patagia at base blackish; antennal shaft ochreous, the pectinations dark.

Expanse of wings: 44 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Evidently near *secturata* Dogn., which, however, is larger, and differs, judging from the description, in several particulars.

126. **Nipteria vestigiata** spec. nov.

Forewing: dull whitish with dark veins; the costa tinged with grey and with two darker grey elongated clouds at one-third and two-thirds, the costal edge near base blackish; from the outer costal grey cloud an outer line rises, running more or less parallel to hindmargin, and marked with dark dashes on veins, thick and diffuse to vein 4, then slightly outcurved and linear, beyond the dark vein-spots; a broad diffuse submarginal grey cloud, narrower and interrupted below middle; cell-spot linear, vertical; fringe pale and dark grey.

Hindwing: like forewing, the outer line thin and outcurved, but insinuate beyond cell.

Underside with the dark shades and markings much stronger: hindwing with a basal and inner line as well.

Head, thorax, and abdomen whitish; tips of shoulders and patagia and segmental divisions of abdomen grey; legs, antennae, and palpi blackish.

Expanse of wings: 37 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season, and 2 ♀♀, October 1902, dry season (Ockenden).

Subfamily ASCOTINAE.

127. **Bronchelia fumistrota** spec. nov.

Forewing: white, thickly sprinkled with coarse grey granulations; the lines blackish grey; first at one-fourth, outcurved above and below median vein, dentate inwards and darker marked on the veins, preceded by a similar line; median shade a little before middle, outcurved round the black cell-spot and cloudy, then

nearly straight to inner margin, also dentate inwards on the veins ; outer line at two-thirds, distinctly dentate-lunulate throughout, outcurved above, the teeth pointing outwardly, followed by a slight grey shade, which is very indistinct, except above and below vein 4, where it is thickened into two grey blotches ; submarginal line whitish, regularly waved, preceded and followed by dark grey shading ; marginal line black, crenulate ; fringe whitish ; starting from inner line a smoky grey smear runs along the lower half of cell and then above vein 4, to join the blotch beyond outer line ; all the lines are darker at costa and on inner margin.

Hindwing : with a slightly curved grey antemedian shade, touching above the black cell-spot ; a lunulate-dentate median line, followed by a geminate grey blotch on each side of vein 4 and some grey clouds towards inner margin ; submarginal line and shades less marked than in forewing.

Underside white, with a somewhat diffuse blackish border, thinning out before anal angle, with a few slight pale marks before the black marginal line ; forewing grey-speckled, with all the lines marked ; the veins beyond outer line with long black dashes ; cell-spot distinct ; hindwing without speckling or marking except the dark border.

Face and palpi dull fuscous ; shoulders grey ; vertex, thorax, and abdomen whitish ; fore and middle legs fuscous-grey.

Expanse of wings : 72 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

It is possible that this may be the missing ♂ of *B. pudicaria* Gnen.

128. **Bryoptera ruficana** spec. nov.

Forewing : rough-scaled, whitish peppered with black scales, the lines and shades tinged with vinous ; first line at one-fourth, thick, blackish, roundly bent in cell, preceded by a vinous shade ; cell-spot round, large and blackish ; median line double, squarely outbent beyond cell-spot, then oblique ; outer line blackish, edged with whitish, at two-thirds, vertical to vein 4, with the part from 6 to 4 somewhat projecting, then oblique ; followed by a thick vinous shade, which beyond cell deepens into a black blotch ; submarginal line deeply zigzag, marked and preceded by shining whitish scales and followed by vinous, the line itself edged with darker ; marginal black spots ; fringe vinous ; the submedian vein and the intervals between veins 2 and 4 are sometimes longitudinally vinous, interrupting the markings ; veins in places dotted with black.

Hindwing : without basal line ; the median shades broader ; veins more black-spotted.

Underside dirty grey, tinged with reddish, the borders broadly black ; cell-spots blackish ; fringe whitish ; apex of forewing white.

Head, thorax, and abdomen mixed rufous, grey, and white.

Expanse of wings : 26 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, January 1902, wet season (Ockenden).

129. **Bryoptera viridirufa** spec. nov.

Forewing : pale greenish, more or less overlaid with dull vinous mixed with grey and whitish scales ; the hindmarginal area and the submedian interspace

on each side of the outer line alone remaining green; lines dark vinous, thick; first at one-fourth, bluntly bent in cell; outer at two-thirds, thick, and nearly vertical to vein 4, the part from 6 to 4 slightly projecting, then oblique and thinner to two-thirds of inner margin: median shade diffuse and double, outcurved above, the inner arm passing over a roundish rather large cell-spot; submarginal line irregularly zigzag, whitish; marginal spots black; fringe pale vinous.

Hindwing: with an irregularly waved black-red postmedian line, edged with pale scales; the basal half of wing pale green, with a dark blotch at base of inner margin and a broad vinous cloud from upper margin of cell, including a black cell-spot, to inner margin before the postmedian line; outer half as in forewing.

Underside dark olive-fuscous, with reddish reflexions, and a pale postmedian band broader in hindwing; marginal areas darker; costa of forewing spotted with black; inner margin broadly pale; fringe of both wings pale ochreous with a reddish tinge, except at apex of forewing, where the fringe and apex itself is paler ochreous.

Head, thorax, and abdomen a mixture of greenish and rufous scales.

Expanse of wings: 30 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

130. **Cymatophora modesta** spec. nov.

Forewing: greenish ashy grey, finely and sparingly dusted with dark atoms; costa ochreous, with short black streaks; the lines somewhat darker, but inconspicuous; basal line at one-fifth, slightly curved, preceded by an olive shade; median line oblique, a little before the middle and nearly straight, touching a black cell-spot, and accompanied by an olive shade; outer line from three-fourths of costa to two-thirds of inner margin, lunulate-dentate, finely black, followed by an olive-ochreous shade; submarginal line indicated by the black scales filling up its lunules, which form four black spots from costa to vein 4 and a double spot in the submedian interspace; a slight olive-ochreous shade beyond cell on hindmargin; marginal spots small, black, obsolete below middle; fringe concolorous.

Hindwing: paler; with fine straight antemedian and black distinct postmedian lines, the latter crinkled, and followed by an olive-ochreous shade, which becomes blackish at inner margin: three submarginal black spots above anal angle; cell-spot distinct; marginal spots hardly visible; fringe concolorous.

Underside paler, almost cream-coloured, speckled with grey; forewing with a grey submarginal shade, hindwing with only a line; cell-spots black and distinct.

Head and thorax like forewing; abdomen paler, like hindwing; face paler, with a brown bar above and below; palpi greyish; abdomen beneath and legs pale ochreous, speckled with grey; forelegs mottled blackish and ochreous.

Expanse of wings: 44 mm.

1 ♀ from Sapucay, Villa Rica, Paraguay, November 1902 (Foster).

In coloration and smoothness of appearance this species resembles *C. limosa* Dogn., but in markings it is nearest *C. dislocata* Warr. from Peru, of which it may be a local, more southern, form; but the submarginal line of forewing is not concave outwards below costa, but vertical as in *C. commotaria* Mssn.

131. **Cymatophora reducta** spec. nov.

Closely allied to *C. dislocata* Warr., but smaller, darker in ground-colour, and densely covered with dark speckling, so that the markings are all more or less obscure; in *dislocata*, on the other hand, the ground-colour is pale, with slight speckling, and the lines and markings stand out distinctly. On the contrary, the underside has the dark markings much less expressed.

Expanse of wings: 46 mm.

4 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger), sent along with several uniformly marked examples of *dislocata*.

132. **Cymatophora striata** spec. nov.

Forewing: whitish ochreous, tinged with darker in places, and speckled with black; all the lines indistinctly geminate; the second arm generally faint, and except the outer line all interrupted; basal and median marked mainly by black dashes on the veins; cell-spot black; outer line slightly lunulate-dentate and nearly straight, parallel to hindmargin, followed by a brown shade, which is distinct only at inner margin and beyond cell, but is marked by black striae on the veins; submarginal line lunular, the lunules filled in with black, forming spots and followed by a dark shade; marginal spots large, black; fringe concolorous.

Hindwing: similar; but without basal line; the outer line and shade strongly marked.

Underside rather duller; the lines and shades indistinctly indicated; the cell-spots and marginal spots black.

Head, thorax, and abdomen ochreous, with darker speckling; dorsum with pairs of black spots.

Expanse of wings: 40 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

133. **Iridopsis alternata** spec. nov.

Forewing: grey with a slight greenish tint, with fine dark striations; crossed by three bands of pale red-brown; the two lines black; first from one-fourth of costa to one-fourth of inner margin, nearly vertical, but incurved at both extremities, preceded by a dark grey shade, the interval between filled up with red-brown forming the first band; outer line from three-fourths of costa to three-fifths of inner margin, black and thickened at the veins, forming an outward projection on each side of vein 5 and three sinuses basewards, first between costa and vein 5, second between veins 4 and 2, third between veins 2 and 1, followed by the second red-brown band, edged externally with dark grey, the red tinge running in on the innerside of the line between veins 2 and 4 and again on inner margin as far as submedian vein; median line dark grey, double on costa, the inner arm touching a grey, darker-edged, ocelloid cell-spot; submarginal line wavy, pale grey edged with darker; marginal area red-brown, forming the third band, shaded with black between veins 6 and 7; black marginal spots; fringe reddish grey; besides the three bands, the costal area and the veins in outer half of wing are reddish.

Hindwing: like forewing; but the space between basal bar and median shade pale grey or whitish, as in *I. huambaria* Oberth.

Underside pinkish ochreous, with dark cell-spots and submarginal bands; the cell-spot of forewing large and ocelloid, of hindwing slight; the band in forewing twice as wide as in hindwing, and extended to margin between veins 4 and 7; costa of forewing with distinct black striae; both wings speckled with dark, the forewing with a dark cloud in and below cell.

Palpi dark fuscous; face, vertex, and thorax reddish brown; abdomen cinereous, with whitish basal belt and ochreous anal tuft; underside of abdomen and legs ochreous; tarsi blackish with ochreous joints.

Expanse of wings: 44 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

Nearest *I. huambaria* Oberth., from which it is separated by the alternate grey and reddish bands, and by the ochreous undersurface; the whitish belt at base of hindwing is less conspicuous, and is not produced, as in *huambaria*, on to the median area of the forewing.

134. **Iridopsis striata** spec. nov.

Forewing: pale grey, covered throughout with obscure darker grey suffusion, mixed in places with pale olive-brown; all the markings indistinct; a double basal line, the arms well separate, angled in cell, then oblique inwards; a similarly double median line, the inner arm touching a large diffuse cell-spot; outer line at three-fourths, black and waved to vein 5, there angled and running obliquely to just beyond middle of inner margin, closely approximated to median line; on the costa it is followed by a fulvous patch and apparently another line; submarginal line pale, waved, followed by a dark shade; marginal spots and festoon black; fringe pale with dark mottling.

Hindwing: with basal half whitish; a double dark antemedian line, black cell-spot, and dark postmedian line, marked blacker on the veins; the rest as in forewing.

Underside whitish, speckled with grey, darker in the forewing; costa ochreous with numerous black striae; a dull blackish apical cloud, leaving the apex itself white; cloudy dark cell-spots on both wings.

Head, thorax, and abdomen grey varied with darker; base of abdomen with a black ring; second segment with a pair of black spots; the others black on dorsum; foretarsi black with pale joints.

Expanse of wings: 52 mm.

1 ♂ from Caradoc, Marcapata, Peru, 4000 ft., February 1901 (Ockenden).

The hindmargin of hindwing is very deeply dentate.

135. **Iridopsis schistacea** ab. **radiata** nov.

Differing from the type form as follows: the outer line, instead of rising at three-fourths of costa, starts at three-fifths, and is not angled outwards at vein 6, but curves at once and runs obliquely inwards to the submedian fold, where it almost touches the inner line, reaching the inner margin well before the middle; on the costa between the two lines are two distinct black spots, one representing the median shade which is crowded out below, the other joining the cell-spot, which is close to outer line; the rusty shade preceding the inner and following the outer line is much broader than in the type form; the marginal black spots are produced inwards as bars between the veins, those below middle short, those above

continued to outer line. In the hindwing the position of the outer line varies similarly, but the marginal bars are all short. Beneath, the marginal bars are reproduced, and take the place of the dark submarginal fascia present in the type.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., June 1902, dry season (Ockenden).

Received along with numerous examples of the usual form. The single specimen is of the same size as the rest, but of a much deeper slate colour.

136. **Melanoscia commaculata**.

Cymatophora commaculata Warr., *Nov. Zool.* vii. p. 195. ♀.

I have now seen several ♂♂ of this species, as well as another ♀, from Santo Domingo, S.E. Peru, and find that it must be referred to *Melanoscia*. The ♂♂ are uniformly darker and smaller.

Monroa gen. nov.

Forewing: elongate, narrow; costa straight; hindmargin oblique, somewhat bulged at middle.

Hindwing: narrow, inner margin short; hindmargin irregularly crenulate, with a sinus beyond cell.

Antennae of ♂ bipectinate, of ♀ simple; forehead bulging; palpi short and stout; tongue invisible; hindtibia with four short spurs.

Neuration: forewing, cell more than half as long as wing, and broad; first median nervule at quite three-fourths, second close before third; radials normal; 7, 8, 9 stalked; 10 and 11 coincident: hindwing with costal and subcostal approximated for three-fourths of cell; 6 and 7 short-stalked. Forewing without fovea.

Type: *Monroa quinquelinearia* Pack. (Cymatophora).

This species and *plumosaria* Pack. must surely be allied to *Excelis* Guen. and its congeners; how Mr. Hulst came to put it into *Aleis* I cannot understand.

137. **Neofidonia olivescens** spec. nov.

Forewing: dull olive-drab, dusted with fine black striae, the olive tinge deeper along hindmargin; lines thick, black; first at one-fifth, angled in cell, then oblique and bent inwards; median, at two-fifths, oblique and straight, parallel to hindmargin; outer line at two-thirds, marked only on costa and inner margin, obsolete between; submarginal line scarcely paler than ground-colour, but well indicated from costa to vein 4 by four black lunules preceding and a dark cloud following it; a row of black marginal spots before the fringe, which is concolorous with wing below middle and darker above; the first three lines are broad towards costa.

Hindwing: with straight diffuse antemedian and obscurely double postmedian lines; submarginal marked by a curved row of black blotches between veins.

Underside duller, with the markings indistinctly shown; cell-spots small, but clear; both wings with darker submarginal cloud.

Head, thorax, and abdomen concolorous; antennae black; forelegs dark, dotted with pale.

Expanse of wings: 38 mm.

1 ♂ from Bulim, Ecuador, December 1900 (Flemming & Miketta).

138. **Stenalcidia latimedia** ab. **circumfumata** nov.

This is a melanic form of *latimedia* Warr.: instead of the ordinary pale lilac-grey, the marginal area beyond outer line, except the space just before the fringe, is filled in with smoky black, in the middle of which the whitish edgings of the lunules of the submarginal line stand out as a row of pale spots.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

SUBFAMILY SELIDOSEMINAE.

139. **Cidariophanes mamestrina** spec. nov.

Forewing: pale brownish ochreous, thickly striated with olive-grey; the markings deeper olive; the veins paler throughout, interrupting the darker transverse markings; basal area edged by an interrupted olive shade, oblique from costa at one-fourth, then vertical and wavy; inner edge of central fascia oblique from one-third of costa, curved outwards above and below the median vein, to two-fifths of inner margin; outer edge from three-fourths of costa, angled above vein 7, then oblique inwards to three-fourths of inner margin, forming flattened lunules between the veins, those between veins 2 and 4 projecting outwards and rounder; this lunular edge is finely margined with whitish, and is preceded within the fascia by a more obscure and straighter olive shade; cell-spot large, olive-brown; a submarginal series of pale spots, those above middle white, that on the submedian fold linear and angled; marginal lunules olive; fringe concolorous, with paler base.

Hindwing: pale greenish ochreous, freckled with olive, more thickly along hindmargin; a cloudy dark cell-mark; an irregularly waved dark postmedian line, and a slight cloudy submarginal shade; fringe and marginal lunules as in forewing.

Underside yellowish ochreous, tinged with olive and speckled with darker olive; both wings with large dark cell-spots, distinct waved postmedian lines, and pale spotted marginal shades; marginal lunules inwardly edged with whitish.

Head, thorax, and abdomen dull greenish ochreous speckled with darker.

Expanse of wings: 52 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February 1902, wet season (Ockenden).

The insect has the appearance of a large Noctuid.

140. **Ischnopteris albipennis** spec. nov.

Forewing: moss-green, varied with brown and dark speckles; space between first and outer lines rather darker; first line oblique outwards, forming three small curves, from one-sixth of costa to one-third of inner margin, the space from base to line below vein 1 and partially above it snow-white; outer line from middle of costa, obliquely concave outwards to vein 4, toothed on veins 4, 3, 2, and lunulate between, then incurved to two-thirds of inner margin; costal area beyond outer line bluish white, with a small greenish costal cloud; a dark blackish green projection towards apex from the tooth at vein 4; marginal area dull greenish, with a distinct and broad bluish white submarginal line from costa to vein 4, below costa slightly zigzag; marginal line blackish; fringe greenish and brown: a rufous shade is visible along submedian fold.

Hindwing: semi-transparent white; the veins and a broad marginal border smoky grey; fringe whitish.

Underside of forewing dirty whitish with the dark markings of upperside showing through; of hindwing like upperside.

Head, shoulders, and base of patagia moss-green; apical half of patagia, thorax and basal segments of abdomen white; rest of abdomen smoky grey.

Expanse of wings: 44 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of the wet season (Ockenden).

The hindmargin of both wings is smooth, not crenulate, and cannot therefore be confounded with *I. xylinata* Guen.

141. **Ischnopteris discolor** spec. nov.

Forewing: a mixture of dull sage-green and luteous, thickly striated with dark; lines as in *viridifascia* described below; the whole of the basal patch dull green, with a spot of white scales above the base of vein 1; beyond the outer line, which is simply curved, not angled outwards on vein 1, instead of the bright green defined band of *viridifascia* there is a dull green diffuse shade; submarginal line luteous, not green, and above inner margin white beyond a dark brown blotch which is preceded by a patch of pale green and whitish scales intermixed; fringe dull green and luteous.

Hindwing: wholly dull fuscous, the fringe rufous yellow.

Underside of forewing dull cinereous; the costa and hindmargin luteous, the apex broadly paler; an indistinct dark middle shade and large submarginal black cloud; hindwing luteous, speckled with black, with an obscure straight antemedian and curved postmedian line, and diffuse submarginal shade.

Head, thorax, and dorsum olive-green; abdomen at sides and beneath pinkish ochreous; legs dark green with the joints pinkish ochreous.

Expanse of wings: 42 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

Much smaller and less brightly coloured than *viridifascia*.

142. **Ischnopteris festiva** spec. nov.

Forewing: deep brown with darker speckling; costa with pinkish spots; the lines paler, fine and obscure; first from about one-sixth of costa, straight and oblique, to two-fifths of inner margin, preceded by a band sprinkled with whitish scales; outer line from three-fifths of costa, oblique outwards to middle, there bluntly angled, and oblique inwards to three-fifths of inner margin, followed by a short band of white scales, reaching from inner margin to vein 2; submarginal line represented by white points on veins, and a waved white line above inner margin, preceded by a square black blotch; there is also another black blotch in the submedian interspace a little beyond the first line; cell-spot blackish, obscured; fringe concolorous, with pinkish mottlings.

Hindwing: fuscous black, with the apical area from three-fifths of costa to below middle of hindmargin orange, the extreme apex narrowly fuscous; fringe orange to below middle, then fuscous.

Underside blurred cinereous in forewing, with some paler patches of ochreous towards hindmargin; costa flecked with dull reddish; hindwing with two darker

bands in the fuscous area, and a submarginal band in lower half of wing ; the orange apical area speckled with fuscous ; fringe dull orange.

Head, thorax, and abdomen brownish fuscous ; anal tufts ochreous ; legs fuscous, broadly mottled with dull orange.

Expanse of wings : 34 mm.

1 ♂ from River Slucuri, S.E. Peru, 2500 ft., June 1901, dry season (Ockenden).

Of the small size and slender build of *I. abnormipalpis* and *fidelis* Warr., but with the yellow apex in hindwings of some of the larger and stouter species.

143. **Ischnopteris praeluteata** spec. nov. and ab. **albirupta** nov.

Forewing : dark moss-green in the ♂, whitish or pale greyish green in the ♀ ; the basal area only dark green in both sexes ; the lines blackish, plain only in the ♀, more or less obscured by the darker tints in the ♂ ; first, obliquely concave, from one-fifth of costa to one-third of inner margin, angled outwards on subcostal vein, on submedian fold, and above inner margin below submedian vein, the last angle acute ; a diffuse median shade from about one-third of costa, at first oblique outwards, more or less obsolete across wing, but ending in an oblique black mark on middle of inner margin, shortly beyond first line ; it is sometimes indicated by a dark mark between median vein and submedian fold beneath the origin of vein 2 ; outer line from just beyond middle of costa, oblique outwards to vein 4, then lunulate-dentate inwards to inner margin just beyond median line, between veins 2 and 4 generally obliterated ; submarginal line pale, bluish white, more distinct in ♂ than ♀, dentate towards costa and waved below, preceded by a darker shade, especially at costa, and followed by a dark spot before anal angle ; a row of black marginal lunules ; fringe greenish grey or rufous grey : discocellular marked by a fine twice concave black line ; veins pale, dotted with brown-black ; in the ♂ at the end of the cell, and along the course of the submedian fold, there appear patches of testaceous.

Hindwing : dark olive-fuscous with darker cell-spot, postmedian curved line and submarginal blackish shade, interrupted above vein 6 by an apical testaceous patch which runs along hindmargin narrowing to anal angle ; fringe testaceous with interrupted dark marginal line.

Underside rufous ochreous, thickly black-speckled ; an oblique diffuse broad median band ; a broad black submarginal fascia from below costa to anal angle, followed by a square white marginal blotch from vein 3 to above vein 4 ; in the hindwing this submarginal fascia does not reach above middle of wing, and there is an antemedian black mark on costa.

Head and thorax dark green, in ♀ mixed with reddish grey ; abdomen cinereous with a greenish tinge ; underside of abdomen and legs rufous ochreous speckled with fuscous ; pectus rufous testaceous, sometimes greenish tinged ; all the tints darker in ♂ than in ♀.

Expanse of wings : ♂, 52 mm. ; ♀, 56 mm.

1 ♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, January 1903, both wet and dry seasons (Ockenden).

144. **Ischnopteris viridifascia** spec. nov.

Forewing : purplish grey, striated with dark ; the basal and outer lines broad, moss-green : the first straight and oblique from one-sixth of costa to one-third of inner margin, the inclosed area dark purplish mixed with greenish ; the outer at

two-thirds, obliqne outwards and bent in middle, then incurved and towards inner margin double; it is followed by two green horizontal streaks in and above cell before the submarginal line, which is pale greenish and inwardly angled beneath costa, interrupted in midwing, and ending in a narrow green line before anal angle; apical and anal areas darker purplish; the median shade, slightly before the middle, is deep purplish, concave above and below median and angled outwards on median and submedian veins; cell-spot purple; dark purple marginal lunules; fringe rufous grey with a paler base.

Hindwing: wholly olive-fuscous, with traces of two dark lines, approximated on costa and diverging towards anal angle; the marginal border deeper; marginal lunules black; fringe luteous grey with paler base.

Underside of forewings above median smoky fuscous, beneath whitish; an obscure oblique black median line followed by a pale patch in end of cell; a broad black submarginal fascia to anal angle; apex testaceous with black marginal spots; hindwing greenish testaceous, speckled with black; a black cell-spot, indistinct and interrupted postmedian line and submarginal fascia swollen at middle, and interrupted above; marginal spots black.

Head and thorax dark purplish grey and green intermixed; abdomen cinereous, tinged with green.

Expanse of wings: 56 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., May 1902, dry season (Ockenden).

145. **Oenoptila ignea** spec. nov.

Forewing: orange, covered with deep reddish fulvous striae, which in the ♀ are suffused together and almost hide the orange ground-colour; a broad brown costal streak nearly reaching apex; the lines dark fuscous; first straight, from one-third of costa to two-fifths of inner margin; median from costa beyond middle straight to vein 4, running in shortly along that vein, then straight to inner margin at three-fifths; outer line from five-sixths of costa, obliquely curved outwards to near hindmargin below vein 4, then curved inwards, but the lower half very obscure; the orange ground-colour most visible above middle, forming especially a small patch before first line and another beyond the median line; fringe dull red with darker chequering; cell-spot black.

Hindwing: with a straight antemedian line and outer line like that of forewing.

Underside blurred, dull red with dull fuscous striations; all the lines dark.

Face and palpi dull red; vertex brown; shoulders grey tipped with red; thorax, patagia and basal segments of abdomen red; rest of abdomen cinereous.

Expanse of wings: 35 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

In forewings vein 11 is stalked with 7, 10, 8, 9, 11 anastomosing with 12.

146. **Oenothalia nummifera**.

Certima nummifera Warr., *Nov. Zool.* viii. p. 485 (1901).

This species, described originally from a ♀, was provisionally referred to the genus *Certima*; lately I have seen a pair from Santo Domingo, S.E. Peru, of which the ♂ has pectinated antennae, but is otherwise in all points exactly like the ♀♀. They must be transferred to *Oenothalia*.

147. **Porona fidoniata** spec. nov.

Forewing: whitish straw-colour, with a few scattered fuscous striae; the costal edge fuscous, and with a few striae; a dark mark just before middle indicating origin of median fascia, which is represented only by a curved shade at inner margin; another costal mark at two-thirds; whole outer margin purplish fuscous, limited by a nearly straight line from four-fifths of costa to before anal angle; a submarginal line of slight pale dots on veins; pale marginal dots at the ends; fringe fuscous; cell-spot grey.

Hindwing: with marginal area only half as wide; a broad grey antemedian shade; a small cell-spot; the end of a postmedian grey band on inner margin.

Underside similar, but the inner bands absent; cell-spots larger and conspicuous; forewing grey-tinged towards base.

Head and antennae fuscous; thorax and abdomen like wings; dorsum tinged with fuscous.

Expanse of wings: 26 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

The species agrees well with *Porona* Schaus, except that vein 10 is absent, coincident with 11, which anastomoses with 12.

Psodopsis gen. nov.

Forewing: costa slightly curved; apex prominent, blunt; hindmargin obliquely curved.

Hindwing: with well-rounded hindmargin, conspicuously insinuate beyond cell.

Antennae (♂) lamellate, subserrate; palpi short, slender; tongue and frenulum present; hindtibiae with four spurs.

Neuration: forewing, cell longer than half of wing; discocellular vertical; first median nervule at three-fourths, second at eleven-twelfths; radials normal; 7, 8, 9 stalked, 10, 11 stalked, 10 anastomosing with 8, 9: hindwing, costal and subcostal anastomosing to about half of cell; 3 and 7 from before angles of cell; no radial.

Type: *Psodopsis incommoda* spec. nov.

148. **Psodopsis incommoda** spec. nov.

Forewing: dull sooty blackish, with black cell-spot, and traces only of dark lines.

Hindwing: similar; fringe concolorous.

Underside dull cinereous; forewing with indistinct broad darker marginal border; hindwing with dark antemedian and postmedian lines, and cell-spot between.

Head, thorax, and abdomen like wings; abdomen below paler grey.

Expanse of wings: 19 mm.

1 ♂ from Chulumani, Bolivia, 2000 m., December 1901, beginning of wet season (Simons).

Although considerably smaller and more indistinctly marked, this species will very probably prove the ♂ of a ♀ described by me as *Fidonia tristata* (*Nov. Zool.* viii. p. 479) from Pallasco, Peru. Both are insignificant in appearance, and I have only seen one specimen of each.

Subfamily SEMIOTHISINAE.

149. **Lozogramma carneata** spec. nov.

Forewing: pale greyish flesh-colour, with faintly darker dusting; two pink cross-lines, antemedian and postmedian, oblique inwards and slightly curved, parallel to hindmargin, from two-fifths and two-thirds of costa to one-third and two-thirds of inner margin; a small blackish cell-spot between them; marginal area slightly deeper-coloured than the rest of wing, the edge of this deeper shade running from costa before apex to shortly before anal angle, approaching outer line in middle; fringe concolorous with this deeper shade.

Hindwing: pale at base, becoming more flesh-coloured towards hindmargin, without markings.

Underside of both wings pale pinkish, darker along margins, without markings.

Face, palpi, and forelegs deep pink; vertex pale ochreous; thorax and abdomen ochreous with a pink tinge.

Expanse of wings: 27 mm.

1 ♀ from San Juan Mts., Colorado (Oslar).

150. **Lozogramma erubescens** spec. nov.

Forewing: cream-white at base and along costa, densely dusted with pink, this dusting becoming thicker outwards, so that the marginal area and fringe are wholly deep pink; a black cell-spot, followed at two-thirds by a very obscure olive-tinged line running parallel to hindmargin, and only visible in certain lights.

Hindwing: whitish, with only the marginal area pink; the cell-spot and outer line both visible.

Underside whitish, pinkish-tinged; the apex of forewing and the fringe deep pink; cell-spots marked on both wings, but no trace of line.

Face, palpi, and forelegs deep pink; vertex, thorax, and abdomen white, the last somewhat pink-tinged.

Expanse of wings: 30 mm.

1 ♀ from Chimney Gulch, Colorado, September 1901 (Oslar).

Evidently closely related to the last species, *L. carneata*.

151. **Lozogramma sinuata** spec. nov.

Forewing: dull flesh-coloured ochreous, with two slightly deeper lines: the first curved, at one-fourth; the second sinuous, at three-fourths, outcurved above, incurved below middle; outer line followed by a deeper fascia, which leaves the line at vein 6, not curving inwards, but running parallel to the hindmargin; this fascia is edged by the submarginal line, which is only visible above inner margin, where it is followed by a deeper tint along margin; fringe quite pale; in the pale median area is a small pink-edged annulus.

Hindwing: throughout rather darker than forewing, with a sinuous post-median line, becoming faint towards costa.

Underside paler, with the lines just indicated.

Head, thorax, and abdomen ochreous, faintly tinged with pink; vertex whitish.

Expanse of wings: 30 mm.

1 ♀ from San Juan Mts., Colorado (Oslar).

152. **Semiothisa formosa** spec. nov.

Forewing: pearly grey, sprinkled with dark brown atoms; the lines dark brown, fine, starting from outwardly oblique costal streaks: first from one-fifth of costa to one-fourth of inner margin, bent in cell; second near the middle, undefined, waved, and approaching first line; outer line concise, lunulate-dentate, the teeth dark-marked on veins, followed by an undefined, thick flexuous line, beyond which the marginal area is rather bright rufous, except the apical area above vein 6; beyond the thick flexuous line is a darker shade, well defined above vein 6, and also marked below vein 4; fringe rufous, with a pale shining basal line; cell-spot linear, dark brown.

Hindwing: with ill-defined median shade, round black cell-spot, and lunulate-dentate outer line; marginal area lilac-grey, with two darker cloudy shades; an interrupted dark marginal line.

Underside white, brown-speckled, the veins and costa of forewing rufous; all the lines brown; apical area of forewing white, brown-speckled; the two submarginal shades of hindwing dark brown, the outer one thick and dentate.

Head, thorax, and abdomen white, speckled with brown; legs rufous.

Expanse of wings: 32 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

Hindmargin of forewing excised between 4 and 7, the apex depressed and rounded; hindwings angled at middle; forewings of ♂ without fovea; antennae of ♂ ciliated.

153. **Tephrina disparata** spec. nov.

♂. *Forewing:* bluish grey, with brownish speckling; some short dark striae along costa; crossed by four reddish brown lines; the first, well curved, at one-fourth, fine; the second, median, at two-fifths, sinuous, more diffuse and obscure, touching a dark linear cell-mark; outer line fine, sinuous parallel to median, at two-thirds, double in its lower course; submarginal line slightly waved, starting from a large brown costal spot, sinuous like the two preceding, followed by a pale space; the marginal area beyond darker, greyish brown; some small dark marginal spots; fringe grey-brown.

Hindwing: greyish white, with a slight brownish tinge, and freckled with brown towards hindmargin, with faint traces of outer lines.

Underside tinged and freckled with greyish brown, with cell-spots and marginal dots; costa of forewing yellowish, with dark brown marks; fringe of forewing dark brown.

Head, thorax, and abdomen pale grey.

♀. Smaller and darker; all the lines thicker, dark brown and tawny; the double outer line and the brown shade following it forming a prominent band.

Expanse of wings: ♂, 32 mm.; ♀, 26—30 mm.

1 ♂, 2 ♀♀ from South Park, Colorado, August 1901 (Oslar).

154. **Tephrinopsis fragilis** spec. nov.

Forewing: pale grey, densely dusted with darker, crossed by three straight and oblique lines, generally marked with fine black dashes on the veins, the first and second near together before the middle, both slightly bent below costa,

the second touching a small dark cell-spot ; third at three-fourths ; some small black spots along margin ; fringe grey.

Hindwing : with the two outer lines only.

Underside paler, with the markings showing through.

Head, thorax, and abdomen pale grey.

Expanse of wings : ♂, 20 mm. ; ♀, 22 mm.

1 ♂, 4 ♀♀ from Pisco, Peru (Hoffmanns).

In one ♀, which is more heavily dusted with dark atoms, the lines are almost hidden ; on the other hand, in two of the ♀♀ the lines are all very distinct, and the outer is followed by a broad dark grey band, containing a blackish blotch above vein 1, this band being continued on the hindwing and the undersides as well.

155. **Thamnonoma nubilata** spec. nov.

Forewing : pale smoky grey, with darker smoky grey markings ; two diffuse shades inwardly oblique before middle, followed by a stout linear black cell-mark ; outer line sinuous from two-thirds of costa to three-fifths of inner margin, the marginal third beyond dark smoky grey, with a paler submarginal line visible through it ; the shade preceding it somewhat deeper, and towards costa with some blackish lunular marks ; fringe smoky grey, beyond some small black marginal dots.

Hindwing : paler grey, with a sinuous grey line just beyond middle and the extreme hindmargin darker grey ; a grey cell-spot.

Underside dull pale grey, with postmedian line and outer margin darker in both wings ; forewing with a dark cell-spot.

Head, thorax, and abdomen pale grey.

Expanse of wings : 34 mm.

1 ♂ from South Park, Colorado (Oslar).

Subfamily FIDONIINAE.

Hypometalla gen. nov.

Forewing : costa straight, strongly convex before apex ; hindmargin curved, oblique.

Hindwing : with a deep excision in hindmargin between 4 and 6 ; 6 forming a tooth.

Antennae simple, lamellate ; palpi quite short, not reaching in front of face ; tongue and frenulum present ; legs stout ; hindtibiae large, with terminal spurs only.

Neuration : forewings, cell half as long as wing ; discocellular vertical ; first median nervule from about middle, second well before end of cell ; lower radial from decidedly above middle of discocellular, upper from upper end of cell ; 7, 8, 9, 10, 11 all stalked together ; 10 and 11, coincident, anastomose and become coincident with 12 ; hindwing, costal quite shortly approximated to subcostal, no radial.

Fringes of both wings deep ; scaling beneath largely lustrous.

Type *Hypometalla mimetaria* Feld. (*Acidalia*).

SUBFAMILY ENNOMINAE.

156. **Acrotomodes lichenifera** spec. nov.

Forewing: fawn-colour, with a pink tinge, incrusted with spots of hoary scales, which in the middle of inner margin become confluent, and along hindmargin coarsely spotted with black; the lines dull reddish, strongly waved: first from just before middle of costa, angled on subcostal vein, then oblique inward to one-third of inner margin; outer line from shortly before apex to two-thirds of inner margin, slightly sinuous; fringe deep reddish: costa in places whitish along the edge; cell-spot linear, reddish, but indistinct.

Hindwing: similar, with traces of both lines, blacker, towards inner margin only.

Underside reddish, especially in the hindwing, more greyish towards costa of forewing and at its apex whitish; both wings thickly and coarsely spotted with black; an outer red line on both.

Face and palpi deep red; vertex whitish; thorax and abdomen pale fawn; abdomen beneath reddish; pectus and forelegs red.

Expanse of wings: 40 mm.

2 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1902, wet season (Ockenden).

157. **Aeschropteryx praecurvata** spec. nov.

Forewing: lilac-grey, with a slight olive tinge, covered with long slender olive striae; a black cell-spot; outer line pale lilac-grey, edged on each side with brown, oblique and straight from three-fifths of inner margin towards apex, before which it becomes much fainter, and is curved, not angled, above vein 6 and retracted to costa at five-sixths; fringe rufous olive; the costa is paler, with a rufous tinge; the inner line is hardly traceable, slightly paler than the ground-colour, and outcurved.

Hindwing: similar; costal area pale and shining; the oblique line of forewing crossing just before middle and more distinct; within it is a small black cell-spot; submarginal line represented by an irregular zigzag cloud with dark edge.

Underside uniform lilac-grey, hardly speckled, with the cell-spots both marked.

Head, including vertex and palpi, and the collar, very deep grey; thorax and abdomen pale ochreous; legs mottled dark fuscous grey and white; pencil of hairs of hindtibiae partly dark fuscous, partly ochreous.

Expanse of wings: 60 mm.

1 ♂ from Sapucay, Villa Rica, Paragnay, November 1902 (Foster).

158. **Anisoperas dentilineata** spec. nov.

Forewing: grey-brown, densely dusted with dark scales, the veins finely dark; costa with short dark and light striae; first line blackish, from before one-third of costa to before one-third of inner margin, vertical, but slightly outcurved above and below median vein, preceded by a pale grey shade containing faint white spots on the veins; outer line blackish, from just before apex to four-fifths of inner margin, sinuous, slightly bent outwards on the two folds, followed by a pale grey shade; submarginal line pale grey, dentate outwards on the veins, preceded and followed by dark grey shadings; a distinct diffuse brown median shade, nearer and parallel

to outer line, but retracted above to costa; cell-spot obscure; fringe grey-brown, the basal half much darker than the apical.

Hindwing: like forewing, but paler, without basal line; fringe dark-chequered beyond veins.

Underside much paler, greyish ochreous, thickly speckled; inner margin of forewing whitish; the lines of the upperside hardly shown, but both wings with a very concise dark brown lunulate-dentate submarginal line.

Head, thorax, and abdomen concolorous with wings.

Expanse of wings: 40 mm.

1 ♂ from Huatuxco, Vera Cruz.

The hindmargin of hindwing is crenulate without an elbow at vein 4; that of forewing distinctly elbowed. The species must be nearly allied to *A. lurida* Druce, but neither his description nor figure correspond exactly.

159. **Anisoperas olivata** spec. nov.

Forewing: olive-drab, finely speckled with darker; the inner and outer lines marked by black and white vein-dashes, in which the white is very conspicuous, placed in both cases on diffuse dark grey shades; the outer line is much nearer the hindmargin than in general, the spots on veins 8, 7, 6, 4, 3 being all exactly vertical and parallel to hindmargin, and the spot on vein 1 being at least at four-fifths from base, instead of three-fourths as usual; a cloudy median shade, indistinct, in which lies the black cell-spot; fringe concolorous.

Hindwing: the same, without first line.

Underside paler, with slighter speckling; the spots of outer line of forewing marked from costa to vein 2, blackish, in a smoky cloud which leaves the apex pale: hindwing without markings.

Head, thorax, and abdomen concolorous.

Expanse of wings: 35 mm.

1 ♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Forewing with a scarcely perceptible bend in hindmargin at vein 4; hindwing with a slight tooth.

160. **Anisoperas undilinea** spec. nov.

Exceedingly like the last species, differing in the following particulars:—

The hindmargin of forewing is decidedly angled at vein 4, above and below which it is faintly concave, while in the hindwing the tooth at middle is more developed, and the margin on either side crenulate.

The two lines are fine and brown, very sinuous, the inner line forming a deep projection above middle towards cell-spot, and a rounded one below, preceded by a narrow grey shade, with paler spots on the veins; the outer line is strongly sinuate inwards beyond cell and in submedian interspace, followed by a neat grey shade with pale vein-spots, of which the upper ones are in a less vertical position than in *A. olivata*; the hindwings are entirely without the inner shade. Beneath, the costa is concisely striated with blackish, and there is no dark cloud from costa along the outer line of dots.

Expanse of wings: 38 mm.

♂ from Tucuman, Argentina, April 1902 (Dinelli).

161. **Apicia böttgeri** spec. nov.

Forewing: pale pearl-grey, faintly washed with olive, with very fine dark striae; lines brownish olive, fine; first from one-fourth of costa, strongly outcurved, bent on median, below which it is semi-obsolete; outer line fine, edged externally with paler, from three-fifths of inner margin oblique towards apex, acutely angled on vein 7, and retracted to a broad olive costal streak at three-fourths; a similar but longer streak at middle of costa indicates a median line; a dark spot before apex the beginning of a submarginal line; cell-spot minute; fringe concolorous.

Hindwing: paler, tinged with green only along hindmargin, where there are traces of a zigzag submarginal shade; median line obsolete above cell.

Underside pale grey, more thickly striated and speckled; an olive suffusion before hindmargin of both wings; cell-spots minute; oblique line of forewing indicated only.

Head and shoulders olive-greenish; patagia, thorax, and abdomen pearl-grey.

Expanse of wings: 39 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

162. **Apicia citrina** spec. nov.

Forewing: pale lemon-yellow, without markings of any kind, except an oblique enter line, pale brown, from two-thirds of inner margin towards apex, bent at right angles on vein 7 and retracted to costa; a small brown cell-spot; fringe concolorous.

Hindwing: with the line crossing just before middle.

Underside paler: the outer line on forewing fine and curved, not angled, below costa.

Head, thorax, and abdomen yellow.

Expanse of wings: 29 mm.

1 ♂ from Duaca, Estada Lara, Venezuela.

163. **Azelina albisecta** spec. nov.

Forewing: pinkish grey-brown, covered with olive striae, which are thicker and stronger along the costa; first line at about one-third, forming three outward curves, finely blackish, edged inwardly by some greenish white scales; outer line from four-fifths of costa to four-fifths of inner margin, vertical to vein 5, then bluntly bulged on 3 and 4 and again on 1, with a sinus between, narrowly black, with thick black spots on the veins, finely edged outwards with greenish white; it is preceded by a broad brown band of uniform thickness, edged inwardly by a darker shade; a largish black spot on discocellular, placed immediately above a streak of greenish white scales running along and beyond the lower half of cell; a zigzag submarginal line of greenish white scales; marginal festoon black, edged with pale; fringe brownish, crenulated, with two darker lines separated by a paler one.

Hindwing: paler brown, with the postmedian band fainter beyond a cloudy dark cell-spot; at the anal angle a dark cloud, edged outwardly by a streak of white scales; veins paler, speckled with black.

Underside of forewing olive-brown, thickly black-dotted above the median and vein 2, dead white below; marginal area beyond submarginal line powdered with

white ; cell-spot blackish : hindwing wholly powdered with white ; cell-spot large, blackish : a postmedian row of black vein-spots.

Head, thorax, and abdomen olive grey-brown ; pectus the same ; legs dark fuscous, spotted with whitish at the joints.

Expanse of wings : 44 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

Resembling *A. munita* Dogn., and hardly a true *Azelina* ; the margins of both wings are evenly crenulated throughout, the fringe deep ; thorax and pectus very hairy ; the patagia shaggy, and extending back well beyond the metathorax, which bears an erect quadrate tuft of scales ; antennae thick, simple, bluntly subserrate.

164. **Azelina coronata** spec. nov.

This species may easily be overlooked, from its great resemblance to *marcaria* Oberth. The outer margin of the forewing is almost smooth, the projection at vein 6 being extremely slight. The space between the two lines of forewing is deep brown throughout, the costal area as deep as the rest ; the leaden grey spot on discocellular, instead of being round, as in *marcaria*, is an elongated oval, touching a yellow isolated spot preceding it ; the outer line rises farther from the anal angle and reaches costa nearer apex, being therefore more oblique, and straight or slightly concave outwards, without any bend beyond the cell ; the outer area, instead of being crossed by paler veins, is marked by a series of long, brown, pale-edged, wedge-shaped marks running along each vein to hindmargin, which is marked by slight pale submarginal dots. On the underside the white postmedian lines of both wings are thick and straight, instead of being fine and waved, and the yellow spot of forewing is conspicuous in front of a fine white bracket-shaped black-edged cell-spot.

Expanse of wings : 46—48 mm.

1 ♂ from Chanchamayo, June—August 1901 (Hoffmanns), *type* ; 1 ♂ from Rio Demerara, British Guiana.

165. **Bassania fortis** spec. nov.

Forewing : olive-fulvous, striated and in parts suffused with rich olive-brown, the central area with a violaceous flush ; first line ill-defined itself, indicated by a pale space of the olive-fuscous ground-colour, curved from one-fourth of costa to one-third of inner margin ; outer line dark violaceous, finely edged externally with lilacine, crenulated between the veins, oblique from just beyond middle of inner margin towards apex, before which it is roundly bent to costa ; a large round black cell-spot ; the violaceous tinge of the area between the two lines does not extend over the subcostal vein, the costal area remaining of the olive-fulvous ground-colour ; veins in the marginal area pale fulvous, the intervals rich brown ; a dentate-lunulate submarginal line, marked by black spots on the veins ; fringe brown.

Hindwing : uniform deep olive-fuscous, almost black ; fringe rufous ; hairs of the basal area and inner margin pale olive-fulvous ; a small reddish black-speckled patch at anal angle.

Underside of forewing like upperside of hindwing ; costal area broadly olive-fulvous ; fringe rufous ; of hindwing deep olive-fulvous, striated with dark, and with a dark suffusion along costa and hindmargin.

Head and shoulders deep fulvous; patagia violaceous brown; abdomen olivaceous grey, fulvous tinged towards base; antennae brown with the basal joint beneath snow-white; pectus fulvous; abdomen beneath brownish fulvous; legs speckled, fuscous and whitish.

Expanse of wings: 52 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

166. **Bonatea viridilinea** spec. nov.

Forewing: lilac-grey, sometimes suffused with brownish, and then more thickly covered with dark speckles than in the unsuffused form; the lines themselves not strongly marked, but the inner preceded and the outer followed by a distinct pale green shading; the inner line shortly oblique outwards from costa, bent in cell, then nearly vertical to inner margin, forming only a slight blunt projection above the median vein, and hardly curved below it; the outer line formed of shallow crenulations, not strongly dentate-lunulate, always ending in the middle of a black spot on inner margin; submarginal line black, forming angulations at inner margin and below costa, and represented by black points on veins between; the costal blotch beyond the retracted portion of outer line smeared with white on the inner side between veins 7 and 8 only, a faintly marked median shade beyond the black cell-spot; fringe concolorous.

Hindwing: with crenulate dark postmedian line edged with green externally, and an irregularly waved and dentate green submarginal line; cell-spot small.

Underside pale sepia-brown speckled with darker; a dentate-lunulate dark postmedian line with paler outer edge and broad whitish marginal border, interrupted on forewing only by a brownish cloud between veins 2 and 4; cell-spots black and distinct; fringe darker than the border.

Head and thorax like forewing; abdomen rather paler.

Expanse of wings: 60—70 mm.

3 ♂♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November, *type*, and January, wet season; and June, dry season, 1902 (Ockenden).

The example taken in June, dry season, is clearer lilac-grey, without brown suffusion and dark speckling; the brown tints of the underside paler, and the marginal border greyer than in the type form; and it is the smallest of the three in expanse. The hindmargins of both wings are strongly denticulate throughout, as in *B. duciata* Mssn., in the type form; but this denticulation is less expressed in the dry-season example.

167. **Certima ambusta** spec. nov.

Forewing: uniform dark olive-fuscous, paler and greyish tinged towards base; the costal area fawn-coloured, freckled with black, the costal edge striped cream-colour and blackish; just beyond the middle a blackish thick line can be seen running parallel throughout to the hindmargin; fringe fawn-colour, darker beyond veins, the tips cream-colour.

Hindwing: without any line visible; basal and inner marginal areas paler, olive-grey.

Underside of forewing with the hindmargin broadly, as well as the costal area, fawn-colour; the dark line as above; towards the hindmargin the commencement of an outer line is visible on costa, marked with black on the veins; hindwing

fawn-colour, tinged with brown ; a round blackish cell-spot with grey centre ; two curved lines parallel to hindmargin, one median, thick and brown, the other postmedian, thin, dentate-lunulate ; inner margin and fringe whitish, dusted with black scales.

Head, thorax, and abdomen grey tinged with fawn-colour, finely sprinkled with black ; pectus cream-white, covered with long wool mixed with scales with black spatulate tips ; legs pale fawn, speckled with fuscous ; inside of anal sheath below brilliant scarlet.

Expanse of wings : 44 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

168. **Certima böttgeri** spec. nov.

Forewing : purplish grey ; costa spotted with pale ; lines diffusely darker, obscure ; first curved from one-fourth of costa to one-fifth of inner margin, marked internally on the veins by grey dashes ; outer line blacker, from close to apex to three-fifths of inner margin, sinuous, and marked externally by small whitish dashes on veins ; an indistinct median shade near before outer line and not visible above vein 6 ; space between inner and outer lines on inner margin dull pale brown, becoming darker above and running up inside the outer line to vein 6 ; the purplish grey area is sprinkled with minute pale scales ; fringe purplish grey ; cell-spot minute.

Hindwing : purplish grey, more ashy grey at base, with three dark shades : the first thick, before the middle ; the other two, postmedian and submarginal, indistinctly lunulate-dentate, the teeth in both marked with whitish vein-dashes ; a similar submarginal line is faintly visible on forewing also ; space between inner and postmedian line brownish.

Underside purplish grey with an olive tinge ; a dark median and diffuse cloudy submarginal shade ; costa striped ochreous and dark.

Head, thorax, and abdomen ashy grey.

Expanse of wings : 40 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

In outline of wing and general appearance most like *C. mima* Th. Mg.

169. **Colpodonta phyllodontaria** spec. nov.

Forewing : lilac-grey, covered with olive striae, and with a strong violet tinge ; base of wing pinky grey, becoming strongly tinged with vinous before the first line ; this is dentate-lunulate and blackish green, outwardly oblique, from before one-third of costa to beyond one-third of inner margin, preceded by an olive-green shade which fills up the lunules and is flecked with greenish white scales ; the median shade, outer and submarginal lines all near together ; the median reddish, from two-thirds of costa, oblique outwards to vein 6, there angled and lunulate-dentate, but obscure to three-fourths of inner margin ; outer line at five-sixths, concisely lunulate-dentate, pale green picked out with whitish scales, quite white on costa ; followed by a thick lilac and vinous shade, equally lunulate-dentate, edged by the lilac-grey submarginal line ; lower part of marginal area filled up with blackish green scales ; cell-spot small, black ; fringe olive-brown, tipped with snow-white in the sinus on each side of vein 3.

Hindwing : deep dull black, the base with some long pale hairs ; fringe pinkish.

Underside of forewing black ; the costal area and a funnel-shaped fascia before submarginal line from costa to anal angle lilac-grey and pale green, with dark striae ; hindwing lilac-grey and pale green, with fuscous speckling ; a large blackish cell-spot and dentate-lunulate postmedian and submarginal reddish black lines with some dark shading between ; marginal area pale green, with a very fine black marginal line.

Head, thorax, pectus, and underside of abdomen pearly grey with a pink tinge and sparsely black-speckled ; dorsum blackish, paler towards base ; legs lilac-grey speckled with olive and reddish ; antennae dark flaked with whitish scales.

Expanse of wings : 44 mm.

2 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 ft. (Böttger).

170. **Crocopteryx aurora** spec. nov.

♂. *Forewing :* pale yellow ; basal patch rusty brown, its edge darker, from two-fifths of costa to one-third of inner margin, angled on subcostal vein and bent on median ; outer line from three-fourths of costa to three-fourths of inner margin, oblique outwards at costa, where it is followed by a brown costal triangle, obsolete between veins 4 and 6, then oblique inwards, marked by brown spots between veins : an indistinct partial submarginal line, accompanied by brown striae ; costa between lines with red-brown striations ; fringe yellow.

Hindwing : with a broad rusty shade across wing beyond middle.

Underside with all the markings and striae bright red.

Thorax and abdomen like wings ; face and palpi deep red.

♀. *Forewing :* with the basal patch and marginal area rosy pink ; the three lines commencing as dark red-brown costal streaks ; costa between the lines pink ; outer line marked only by a small red-brown spot on submedian fold ; fringe deep red, paler towards apex.

Hindwing : with marginal area pink, with a reddish spot at costa on its inner edge.

Underside with the red much brighter. Abdomen laterally and legs rosy.

Expanse of wings : 26 mm.

2 ♂♂, 2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

171. **Eusenea castanea** spec. nov.

Forewing : bright pale chestnut ; costa, in basal half, marked with white and grey ; a patch of grey scales at base of wing ; inner line broadly interrupted, dark brown, oblique outwards from costa at one-third, curved in cell, but not reaching median vein, inwardly edged by a broad streak of whitish grey scales, reappearing on inner margin at one-fourth in a patch of grey scales dark-margined on both sides ; outer line paler than ground-colour, preceded by a shade deeper than ground-colour, from costa at four-fifths, where it is marked by a small white spot, to inner margin at middle, where it ends in a similar spot to the first line ; the line is straight except for a faint bend above vein 4 ; a large round semi-hyaline whitish spot on upper half of discocellular ; between this and the costal part of first line the ground-colour is lilac-grey ; three blackish, pale-tipped submarginal spots below apex, and two black dots below middle ; fringe concolorous.

Hindwing: rosy grey, with a ferruginous patch at anal angle, and the inner margin cream-coloured with coarse black speckling; a dark crinkled postmedian line from three-fourths of costa to above anal angle, ending in a black spot, pale-edged throughout, the edging at the angle becoming broad and white; an indistinct brown cell-spot; submarginal dots black; fringe concolorous, greyer towards apex.

Underside of forewing paler chestnut; the cell-spot whitish, candiform on lower half of discocellular; costa marked light and dark; outer line fine, curved, starting from a bright white spot at costa; apex blue-grey: more than half the inner-marginal area dull whitish, reaching anal angle; hindwing with black cell-spot, quartered with white; inner-marginal third white, with black striae; outer line marked by white spots on veins; two black submarginal dots below apex.

Face, thorax, and abdomen chestnut; fillet and shaft of antennae white; palpi and vertex olive-fuscous; legs speckled fuscous and whitish; pectus and abdomen beneath chestnut: metathoracic tuft grey and black.

Expanse of wings: 44 mm.

6 ♂♂ from Huancabamba, Cerro de Pasco, Peru (Böttger).

172. **Hygrochroma catenulata** spec. nov.

Forewing: stone-grey, tinged with pale pink in basal half and deeper towards margin; thickly speckled with fuscous and olive; first line olive-green, from costa at nearly one-third to before one-third of inner margin, angled in cell, then straight; median line starting from costa at middle as a broad outwardly oblique red-brown streak, sharply angled at vein 6, then oblique inwards to before middle of inner margin, in the form of an acutely dentate-lunulate olive-green line, the teeth touching the outer line, and the interval between the lines pale olive-green, and forming a dark blotch at inner margin; outer line lunulate-dentate, outwardly edged with pinkish white, running from inner margin close beyond and parallel to median line, sharply angled on vein 7 close before apex, and retracted to costa where it forms an oblique brownish green streak, followed on costa by a triangular greenish mark edged with white scales, beyond which the extreme apex is dark-speckled; an indistinct pale submarginal line, with darker clouds on each side; fringe greenish; cell-spot small, dark green.

Hindwing: paler, especially along costa, two lunulate-dentate green lines from beyond middle of inner margin not reaching costa, and a cloudy greenish grey submarginal shade.

Underside yellowish ochreous, coarsely spotted with dark brown; the lines dark brown; costa of forewing olive with finer markings; a submarginal olive-brown shade containing a small tawny blotch before middle of hindmargin, which is narrowly lilac-grey; apex pale grey; fringe olive-green and grey; hindwing with fewer and finer speckles, with a broad olive-brown marginal border, the margin grey towards apex; dark cell spots on both wings.

Face and palpi olive-grey; vertex, collar, and shoulders pinkish grey, the shoulders also olive-tinged; patagia and thorax pale stone-grey; abdomen pinkish ochreous.

Expanse of wings: 46 mm.

4 ♂♂ from Charaplaya, Bolivia, 1300 m., June 1901 (Simons).

Closely resembling *H. subusta* Warr.

173. **Isochromodes duplicata** spec. nov.

Forewing: coppery red, with blackish specks and striae: the costa blackish throughout; first line blackish, at one-fourth, outcurved in cell, then vertical; outer line sinuous, double, from costa shortly before apex to three-fourths of inner margin; oblique inwards to vein 5, then concave inwards to submedian fold, black-brown with the space between the arms lilacine; followed immediately by a large ashy grey blotch ending above in an oblique black apical streak and mixed with blackish at vein 2; marginal line dark, crenulate; fringe pale, with dark dashes beyond the vein-ends; cell-spot small, blackish.

Hindwing: with the outer line curved, the lilacine centre ending in a white spot on inner margin; a black blotch beyond it between veins 2 and 4.

Underside pale ochreous, black-speckled; the costa darker; blotches beyond outer line smoky blackish, leaving apical areas whitish.

Thorax like wings; face and shoulders darker, like costal streak; abdomen rufous cinereous, dark at base.

Expanse of wings: 36 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

Nearest to *I. canisquama* Warr., the hindwings deeply crenulate. A dentate submarginal line is partially visible beyond the outer line.

174. **Isochromodes maculosata** spec. nov.

♂. *Forewing:* straw-colour, densely speckled with orange-ferruginous, these speckles in places becoming confluent and suffused, the whole overspread with black specks; costa with black striae, and in outer half brown-tinged; inner and outer lines broad, dark olive-grey; the first from one third of costa to one-third of inner margin, dentate basewards on subcostal vein and on submedian fold, marked externally with a white, outwardly black-edged spot on the median and submedian veins; outer line from two-fifths of costa to three-fourths of inner margin, sharply angled outwards below vein 4, concave above and thrice concave below, preceded by a row of black wedge-shaped spots on veins; submarginal line marked by large black spots on veins 6, 5, 2, and sometimes 1; a black median line vertical to vein 4, then inbent and sinuous, approaching outer line on inner margin; hindmargin crenulate, with black dots at end of veins, projecting into the straw-coloured fringe; a slight black cell-dot in a clear space.

Hindwing: like forewing, but without basal line; the outer line dentate throughout.

Underside pale straw, with grey-brown frecklings; the lines and marginal spots grey-brown.

Palpi ochraceous, spotted with brown; face ochraceous, brown above; vertex fulvous, with two brown spots; shoulders and patagia bright fulvous, their apices tinged with brown; abdomen ochraceous, varied with brown and with black-brown blotches on basal segments above; abdomen beneath and legs grey-speckled.

In the ♀ the confluence of the orange speckling is greatly developed; the whole of the space between inner and outer lines, except towards middle of costa, becomes suffused with red-brown, the outer edge of basal area, the middle costal space, and two semi-oval blotches before hindmargin standing out yellow; the

hindwing has the basal two-thirds red-brown and a series of small yellow submarginal blotches ; in both wings the cell-spot is black in a yellow circle.

Expanse of wings : 40 mm.

1 ♂, 1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., the ♀ dated January, the ♂ June 1902 (Ockenden).

As the darker ♀ was taken in the wet season and the paler ♂ in the dry, the difference between the two examples may not be really sexual, but seasonal only.

175. **Isochromodes miniata** spec. nov.

Forewing : deep red, finely speckled with blackish ; costa at base dark ; first line at one-third, marked by blackish blotches on subcostal, median and submedian veins ; cell-spot black, forming part of a triangular black blotch stretching from vein 3 to the subcostal and outwardly lunate-edged before the submarginal line of the ground-colour, which is followed by a blackish blotch at apex, and two others on veins 3 and 4 ; the outer line is marked below the large blotch by black spots on veins 1 and 2 ; fringe red.

Hindwing : with a quadrate black anal blotch, formed apparently, as in forewing, by waved contiguous shades ; a small black cell-spot, followed by a larger spot on vein 6.

Underside dull rosy pink ; the dark blotches of upperside slightly showing through ; cell-spots black ; fringe like wing.

Head, thorax, and abdomen red like the wings : base of abdomen with a black dorsal blotch.

Expanse of wings : 36 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

176. **Melinodes subapicata** spec. nov.

Forewing : yellow, thickly freckled with reddish orange ; costa and lines brown-black ; first line straight from before one-third of costa to one-third of inner margin ; outer line straight from three-fourths of costa to four-fifths of inner margin ; marginal area filled with a smoky fuscous suffusion except a clear oval space at apex and another, somewhat blurred, at anal angle ; marginal line finely black ; fringe yellow, finely chequered with black beyond veins ; cell-spot black.

Hindwing : without first line ; outer line curved parallel to hindmargin ; marginal area as in forewing, but the space at anal angle discoloured, leaden grey ; cell-spot black ; inner margin and fringe pale ochreous.

Underside whitish ochreous, with a faintly darker tinge towards base, and striated with fuscous ; costa of forewing, lines, and marginal area smoky black ; apex of both wings with an oval whitish blotch ; that at anal angle of hindwing pale leaden grey.

Head, thorax, and abdomen like wings ; abdomen in anal half cinereous, with pale ochreous anal tuft ; collar and base of shoulders brown-black ; underside of abdomen and legs pale ochreous.

Expanse of wings : 30 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., April 1902, end of wet season (Ockenden).

This ♂ answers the description of *M. conspicua* ♀ Schaus, but is nothing like that of the ♂, which is possibly a different species. Of it I have seen two examples, both ♂♂, from Popayan, Colombia.

177. **Microgonia affinis** Warr.

The description of this species in *Nov. Zool.* iv. p. 495, was made from the ♂. In the ♀, of which sex I have seen two examples only, the lilac tints are absent, being replaced by whitish, and the ground-colour is dull olive, but this in the forewing only appears in the central space, the basal and marginal areas being filled with black, partially confluent, striae; beyond the outer line on the inner margin is a roundish blotch of the olive ground. The hindwing is almost wholly blackish. The underside is darker, olive-fuscous.

Expanse of wings: 65 mm.

Both examples were from Santo Domingo, Carabaya, S.E. Peru, June 1902, dry season (Ockenden).

178. **Microgonia particolor** spec. nov.

Forewing: yellow, mainly suffused with brick-red, the only yellow spaces being a large blotch along costa beyond the middle not reaching apex, and some irregular small patches in and below cell; the yellow of the large patch is spotted and blotched with red, the lines rather deeper red; first from one-third of costa to one-third of inner margin, bent and blotched in cell, where it passes beyond the yellow patch in the cell and between the two patches below it; outer line from three-fifths of inner margin, vertical to vein 4, then strongly curved outwards to vein 7, where it is angled and shortly retracted to costa at three-fourths, followed on costa by a white spot; the inner line is preceded, and the outer followed, by a pale slightly lustrous line; in certain lights a pale lustrous blotch is visible along hindmargin above anal angle; fringe red.

Hindwing: with the outer line nearly straight from three-fifths of costa to two-thirds of inner margin; cell-spot black, in a small yellow patch.

Underside duller in tint, the yellow areas much larger.

Face, palpi, and forelegs dark fuscous; vertex, shoulders, and patagia bright pale fulvous; fillet narrowly whitish; abdomen red.

Expanse of wings: 56 mm.

1 ♂ from Paramaribo, Nov. 1892 (C. W. Ellacombe).

The yellow coloration is probably variable in extent; I have seen an example from San Ernesto, Bolivia, in which the whole wing surface above was red. It is close to, and may be a form of *rhodaria* H.S., the type of *Microgonia*.

179. **Microgonia siccifolia** Warr.

The type is a ♀, described in *Nov. Zool.* xi. p. 158. The ♂ is different, brownish olive, instead of chocolate-brown, as far as the outer line, with the basal area scarcely paler; the outer line is marked by the difference in ground-colour merely, the pearl-grey of the marginal space again becoming olive along the hindmargin and fringes.

The apex of forewing is only shortly produced, the hindmargin gibbous below the subapical indentation.

Expanse of wings: 52 mm.

1 ♀ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

180. **Microgonia subumbrata** spec. nov.

Forewing: olive-green, with a few darker transverse striae ; first line from one-fourth of costa to one-third of inner margin, indistinct, slightly outcurved above and below the median vein, darker olive mixed with rufous scales ; faintly double, and preceded by a dark spot on median ; an oblique darker olive shade from middle of costa, narrow at first, then widening out and joining the deep olive shade that precedes the outer line ; this is dark olive-brown edged outwardly with rosy grey, starting at five-sixths of costa, sharply angled on vein 7 before apex, then oblique and nearly straight to beyond middle of inner margin : the outer rosy grey arm is marked externally by dark olive spots on the veins ; marginal area occupied from vein 4 to anal angle by a dark olive blotch narrowing to the angle, the teeth of the submarginal line marked by white dashes ; fringe reddish olive ; cell-spot black with pale edge.

Hindwing: with the line slightly antemedian ; submarginal line indicated by a diffuse rufous zigzag shade, the teeth marked white.

Underside uniform dark olive-grey with a broad submarginal diffuse fascia of pale olive, enlarged at each anal angle and paler at apex of forewing ; a line of submarginal pale dashes ; cell-spot pale in forewing, black in hindwing ; inner margin of hindwing pale olive.

Thorax pale olive like the wings ; abdomen olive-grey, with a rufous tinge ; head darker, mixed with rufous ; pectus and underside of abdomen dark olive-grey, the pectus hairy ; legs pale olive ochreous dotted with fuscous.

Expanse of wings : 58 mm.

1 ♀, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

The upperside agrees well with the description of *olicata* Dogn., but the underside is altogether different.

181. **Microgonia umbrosa** Schaus, ab. **interclarata** nov.

This aberration of *M. umbrosa* is analogous to that of *M. apidania* Cram., which I described under the name of *bicolor* (*Nov. Zool.* iv. p. 494, 1897). The central area of forewing between the two lines is brownish olive with sparse striation, instead of being thickly striated and suffused with dark ; by way of compensation, the dark tints of the basal and marginal areas are intensified from brown to black ; while the whole of the hindwing except the marginal area from apex to vein 4 is dull black. The example described is one of 15 ♂♂ from Huancabamba, Cerro de Pasco, Peru, 6000—10,000 feet (Böttger) ; among these four others differ from the type form in having the outer line pale olive-yellow instead of dark brown.

182. **Microxydia rufifimbriata** spec. nov.

Forewing: glossy straw-colour, with very fine reddish dusting ; costal edge bright red, thickened from base to first line and from second line to apex ; lines bright red ; first fine, from one-fourth of costa to one-third of inner margin, bent in cell ; second double, from two-thirds of costa to three-fifths of inner margin, bent on vein 6 and marked there externally by a black point ; generally with slightly darker points on all the veins ; cell-spot small, red ; fringe full, deep red.

Hindwing: with the double line central, not reaching above vein 6

Underside similar ; the speckling coarser, and limited to the costal area of forewing only.

Thorax and abdomen straw-colour ; face white ; collar and front of shoulders reddish.

Expanse of wings : 24 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., March 1902, wet season (Ockenden).

Decidedly larger and more strongly built than *M. orsitaria* Guen., from which it is separated by the red fringe ; the outer line also is not so near the margin of the wings.

183. **Microxydia strigosa** spec. nov.

Forewing : cream-colour, thickly covered with pale rufous olive striae ; the lines of the same tint, thick ; first at one-third, bent in cell ; second at two-thirds, curved below costa, and outcurved towards inner margin ; an obscure cell-spot ; fringe pale rufous.

Hindwing : with outer line only, from three-fourths of costa to just above anal angle ; cell-spot small.

Underside without striae, except along costa of forewing ; cell-spots brown ; outer line marked by spots on veins and a large brown spot on costa of forewing.

Head, thorax, and abdomen like wings.

Expanse of wings : 22 mm.

2 ♀♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., December 1902, wet season (Ockenden).

184. **Mimogonodes fuliginosa.**

Melanema fuliginosa Warr., *Nov. Zool.* xi. p. 156. ♀ (1904).

Having now seen a ♂ of this species, of which the antennae are quite simple, I find it must be transferred to *Mimogonodes*. The hindwing, unlike the other species, has the hindmargin bluntly bent at middle, not rounded.

The ♂ is slightly smaller than the ♀, but otherwise resembles it.

185. **Mixopsis leodorata.**

Cirsodes leodorata Guen., *Phal.* i. p. 42. ♀ (1857).
Laudosia typtaria Feld., *Reise Nov.*, t. 133, fig. 36. ♂ (1874).

I have lately met with ♀♀ of this species ; and there seems no room to doubt that Guenée's ♀ is the other sex of *typtaria* Feld.

186. **Mixopsis pulverata** spec. nov.

Forewing : pale ochreous, densely dusted with blackish scales ; costal area with fewer black scales, but tinged with pale brown in outer half ; an indistinct green shade at one-third, and a narrow green outer line from near apex to before anal angle, with faint traces of a greenish submarginal line ; cell-spot large, oval, filled up with green scales ; a row of dark marginal dots at end of veins ; fringe rufous.

Hindwing : paler, the dusting finer ; a smaller round cell-spot, greenish traces of two greenish outer lines ; marginal dots and fringe as in forewing.

Underside less heavily dusted: cell-spots and marginal dots distinct; the green shades only indicated.

Head, thorax, and abdomen like wings, the last thickly dusted with dark; face and shoulders brownish tinged; legs ochreous, spotted with dark.

Expanse of wings: 52 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

This may possibly prove to be an abnormally marked ♀ of *M. bella* Warr., but the lines and colouring, instead of being, as in that species, distinct and clear, are here all but absent.

187. **Nematocampa? confusa** spec. nov.

Forewing: yellow, covered with fine close orange striae; costa and marginal line brown; lines ill defined, orange; first from one-third of costa to one-third of inner margin, slightly curved and oblique inwards; outer from three-fourths of costa, incurved below middle to before two-thirds of inner margin; submarginal line represented by a small brown blotch on vein 5, and a brown blotch in an orange shade at anal angle; fringe yellow, brownish below middle; cell-spot small, black.

Hindwing: without any distinct line; cell-spot black; marginal line brown.

Underside smooth pinkish yellow; cell-spots and marginal lines brown; forewing with broad brown shade from three-fourths of costa outcurved to margin and ending in anal angle; apical area whitish.

Palpi externally brown: face yellow, brown above; vertex bright yellow; collar brown; thorax and abdomen like wings.

Expanse of wings: 24 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1901, wet season (Ockenden).

The hindmargins of both wings are crenulate; it may be an *Isochromodes*, but the palpi are very short for that genus.

188. **Nematocampa cuprina** spec. nov.

Forewing: bright reddish orange, with a few blackish striae; the veins and discocellular narrowly black; costa dull brown with darker striae; lines dark brown; first oblique inwards, from one-third of costa to one-fourth of inner margin, preceded by white dashes on veins; outer line vertical, but bent slightly at vein 1, broad at costa, from two-thirds of costa to two-thirds of inner margin, followed by bluish white wedge-shaped marks on veins, which between veins 3 and 5 develop into a blotch; marginal area dark brown, containing two large marginal blotches of ground-colour, one at apex, the other at anal angle; marginal line black, festooned; fringe like wing, with dark dashes beyond veins; an interrupted obscure submarginal line.

Hindwing: with a dark line at base; outer line fine, angled at vein 4, then concave to inner margin at two-thirds, followed by whitish dashes on veins; submarginal line indicated by dark blotches between veins; veins 3 and 4 thickened to margin.

Underside washed with yellow, and with brown striae; the lines and outer shades dull brown; marginal blotches whitish.

Head, thorax, and abdomen like wings; basal segment of abdomen with a brown ring.

Expanse of wings: 36 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6500 ft., October 1902, dry season (Ockenden).

189. **Paracomistis plumosa** spec. nov.

Forewing: lavender-grey, densely dusted with fine blackish atoms; the costa with short dark striae; the lines all marked by dark dots on the veins; the first, curved, close to base; the median before the middle; the outer from three-fourths of costa to two-thirds of inner margin, parallel to hindmargin, marked by larger black points, and followed below middle by an olive-ochreous shade; submarginal line very obscure, but indicated by olive-ochreous wedge-shaped spots preceding and slighter marks following it from costa to vein 4, where the olive-ochreous tint appears to pass to the outer line; large black marginal spots between the veins and small ones at the vein-ends at the base of the grey fringe, which is somewhat glossy; cell-spot small, black.

Hindwing: paler, with antemedian and postmedian dark lines, not reaching above vein 6, the outer lunulate-dentate and followed by an olive-ochreous shade; cell-spot black.

Underside darker, the forewing suffused with brownish grey; cell-spots and outer lines indicated; marginal spots absent.

Head, thorax, and abdomen pale grey; face below and collar darker; abdomen with pairs of dark spots; palpi externally dark; vertex white.

Expanse of wings: 38 mm.

1 ♂ from Limbani, Carabaya, S.E. Peru, November 1901, wet season (Ockenden).

This differs from typical *Paracomistis* in having a decided fovea in the forewing and in the more plumose antennae.

190. **Pero olivacea** spec. nov.

Forewing: dull olive, slightly dusted with darker; the median area darker, especially before outer line; first line edged outwardly with dark from costa, but obscure below median vein, forming three rounded curves of equal size to one-third of inner margin; outer line oblique from three-fourths of costa to three-fifths of inner margin, with two similar protuberances beyond cell and in submedian interval, with a sinus inwards between them; a slight pale cloud indicates the cell-mark; the line is followed by an olive cloud, containing darker lunulate spots; marginal area paler, with a deeper shade at apex to vein 3, and a smaller cloud above anal angle; a white submarginal spot above vein 6, and a black one above vein 2; fringe deep olive.

Hindwing: with a dark curved line beyond middle, the space beyond somewhat paler than the basal area; a white spot above vein 6, and a black spot on each side of vein 3.

Underside paler olive, especially along inner margins; a postmedian crinkled dark line on both wings; a pale space with dark centre on discocellular of forewing, a black cell-spot on hindwing; apex of forewing whitish; the white submarginal spots prominent.

Head and thorax deep olive; abdomen paler and greyer; antennal pectinations rufous.

Expanse of wings: 40 mm.

1 ♂ from Tucuman, Argentina, April 1902 (Dinelli).

191. **Perusia subsordida** spec. nov.

Forewing: pale straw-colour, thickly irrorated with olive-grey speckling; first line very obscure, angled on the median, and indicated by dark spots on the veins; outer line oblique, from a little before apex to three-fourths of inner margin, reddish and marked by red dots on the veins, the apical area beyond it also tinged with red; cell-spot faint; fringe straw-colour with grey dusting.

Hindwing: pearly white; fringe white.

Underside of forewing suffused with olive-grey, darker towards base and along costa, which is dusted with darker; a triangular red patch at apex; cell-spot dark; hindwing whitish, with very faint dusting, chiefly along costa.

Head and thorax straw-colour; abdomen whitish.

Expanse of wings: 28 mm.

1 ♂ from Huancabamba, Cerro de Pasco, Peru, 6000 to 10,000 ft. (Böttger).

Near to *P. paju* Dogn., distinguished by the discoloured underside of wings and the absence of the dotted lines thereon.

192. **Phyllodonta pseudonyma** spec. nov.

Forewing: grey-brown, with a tinge of brick-red, and with scattered fine dark striae; costal edge with alternate pale and dark marks; the two lines moss-green, edged with reddish; inner line from one-fourth of costa to one-third of inner margin, outwardly curved and thick; outer line from five-sixths of costa, shortly oblique outwards, from vein 7 oblique inwards to below 3, bent outwards on submedian fold, and reaching inner margin at three-fifths; in both lines the veins are marked with white dashes across the green, most plainly in the outer line on veins 1, 6, and 7; the outer line is followed by a lunulate-edged vinous shade, which is paler close to the line between veins 3 and 5, and on inner margin forms a kidney-shaped pale blotch edged with vinous; it is followed towards anal angle by a collection of black and brown scales and striae; cell-spot red-brown, round which an indistinct reddish median shade can be traced; the brick-red tinge is strongest between the two lines; fringe concolorous.

Hindwing: dull reddish, towards hindmargin olive-green; a dark postmedian line followed by a paler red band, then a curved green line followed by a reddish shade, as in forewing, but both much more obscure; veins and fringe paler, the fringe with dark spots beyond the vein-ends.

Underside of forewing fawn-colour, tinged slightly in places with rufous and greenish, and with fine dark striations; median and outer lines brown, not reaching below vein 2, the whole inner margin being blurred grey; between veins 2 and 4 touching outer line a large diffuse purplish blotch edged outwardly by a whitish cloud; hindwing with the three lines of upperside marked, the basal half with thick conspicuous vinous-red striae; cell-spot a thick black ring with pale centre, much larger than that on forewing.

Head, thorax, and abdomen all reddish grey like wings; the abdomen paler along sides.

Expanse of wings: 52 mm.

1 ♂, from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., February 1902, wet season (Ockenden).

This species is remarkable for the absence of teeth and excision in the hindmargins of wings; in forewing the hindmargin is shortly indented below apex, then evenly gibbous, passing into the convex inner margin with only a faint bend at anal angle; the hindmargin of hindwing is well rounded throughout.

193. **Pyrinia derasata** spec. nov.

Forewing: pale ochreous, striated and suffused with dull chestnut; the lines thick, dark chestnut; first from before middle of costa, oblique inwards and slightly curved, to two-fifths of inner margin; outer line from two-thirds of costa, oblique outwards to vein 7, then angled and oblique inwards, slightly flexuous to two-thirds of inner margin; an oblique chestnut mark on discocellular meeting outer line; space between the two lines whitish ochreous, rounded above and bounded by the cell-mark and vein 6; basal area striated with chestnut; marginal area suffused chestnut, forming a triangular blotch on hindmargin, with the apex at the discocellular, the costal area and a small spot at anal angle remaining paler; traces of a darker submarginal line on costa and before anal angle.

Hindwing: costal area yellow, the rest suffused with chestnut; a thick diffuse median line; a submarginal shade, plainest at costa and anal angle.

Underside like upper.

Head, thorax, and abdomen ochreous, edged with chestnut.

Expanse of wings: 24 mm.

1 ♂ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., November 1902, wet season (Ockenden).

Cell longer than half of wing; vein 5 from above middle of discocellular; 7, 8, 9, 10, 11 all stalked from two-thirds: in hindwing vein 7 well before end of cell; antennae of ♂ ciliated.

194. **Spododes basipunctata** spec. nov.

Forewing: pale testaceous, tinged with olive-grey, and densely powdered with olive and brown scales; a black spot at base of submedian vein; the lines brownish, all marked by black vein-dots; first from one-third of costa to one-third of inner margin, outcurved above and below median; the whole basal area olive-grey; outer line from costa just before apex to two-thirds of inner margin, angled outwards on vein 4, concave above and below, accompanied by an olive-brownish shade: median shade from two-thirds of costa, slightly outcurved above and closely approaching outer line on inner margin; a brown linear cell-spot; fringe pale ochreous, with black dots at base at the ends of the veins.

Hindwing: similar, without basal line, and with the basal area pale.

Underside much paler, speckled thickly with olive-grey; cell-spots, outer line of spots, and the marginal dots distinct; forewing with the outer line of spots on a thick olive-grey shade, which is almost obsolete in hindwing.

Face and palpi dark brown; vertex pale ochreous; thorax and abdomen like wings; anal tufts ochreous; legs ochreous, brown-speckled; forelegs brown in front.

Expanse of wings: 44 mm.

1 ♂ from Jalapa, Mexico.

The antennae are quite simple; otherwise the insect might well be taken for an *Isochromodes*.

195. **Tetracis inquinata** spec. nov.

Forewing: glossy white, tinged and sprinkled with olive-grey and a few black atoms; costa striated with olive; inner and median lines diffuse, wavy, reddish brown; inner at one-fourth, median just beyond middle, approaching outer line on inner margin; outer line fine, reddish, nearly straight, from two-thirds of inner margin to vein 7 before apex, there retracted and curved to costa, the angle followed by two dark blotches to costa, continuing the direction of the line; the line is thickened at the veins and finely edged with paler; it is followed by an outwardly lunulate-dentate-edged red shade, which fills up most of the apical area; a blackish spot between veins 3 and 4, from which a grey streak descends to above anal angle; fringe red; cell-spot black; the extreme base of wing and the space between median and outer lines are tinged with darker olive-grey.

Hindwing: with the line continued and marked darker on the veins; a slight median shade from cell to inner margin; inner two-thirds whitish, speckled with grey and black; outer third with a reddish grey cloud except at apex.

Underside whitish, thickly dark-speckled, without reddish suffusion except towards middle angle of forewing; cell-spots black.

Head and thorax ochreous and rufous; abdomen paler; fillet and shaft of antennae white; the latter with black dots; palpi with third segment blackish with a white tip.

Expanse of wings: 52 mm.

1 ♀ from Santo Domingo, Carabaya, S.E. Peru, 6000 ft., January 1903, wet season (Ockenden).

Both wings have the hindmargin crenulate, the hindwing more deeply.

Subfamily PROSOPOLOPHINAE.

196. **Exelis? fumida** spec. nov.

Forewing: dull smoky cinereous, covered with dark scales; the lines blackish; first from one-fourth of costa to one-fifth of inner margin, vertical, or slightly oblique outwards, to median vein, thence oblique inwards; outer line from three-fourths of costa to two-thirds of inner margin, parallel to hindmargin, but slightly projecting between veins 3 and 6, somewhat thickened on the veins and obsoletely curved between them; a black cell-spot midway between the two lines, traversed by a dark median line, which below middle is parallel to and equidistant from the other two lines; submarginal line pale, interrupted, preceded by a slightly darker band; a black marginal line swollen between the veins; fringe concolorous, with paler base.

Hindwing: like forewing, but without the basal line.

Underside paler cinereous, with black cell-spots and smoky darker marginal borders.

Head, thorax, and abdomen concolorous.

Expanse of wings : 36 mm.

1 ♂ from South Park, Colorado, August 1901 (Oslar).

I refer this species with a query to *Exelis* Guen. ; structurally it agrees precisely neither with that nor either of the other genera into which Mr. Hulst has distributed the species of this group—viz. *Tornos* Morr., *Coenocharis* Hulst, *Holochroa* Hulst, and *Synglochis* Hulst. Possibly it has been described as an ordinary *Boarmia*. The forewing has a moderately developed fovea ; the antennae of the ♂ are pectinated, but the pectinations are of an unusual character, being far apart, short and regular, and thickened towards their apices. The face is flat, without tubercles ; palpi quite short ; tongue very slight ; the frenulum strong ; hindtibiae with four short spurs and no pencil of hairs.

Neuration : forewing, cell half as long as wing ; discocellular vertical above, oblique below ; first median nervule at three-fourths, second close before third ; radials normal ; 7, 8, 9 stalked from just before end of cell ; 10 and 11 stalked, neither anastomosing : hindwing with costal closely contiguous to subcostal for half of cell, which is more than half the length of wing ; 3 and 7 before the ends of cell ; no radial.

Leucolithodes gen. nov.

Closely allied to *Erilophodes* Warr., *Nov. Zool.* i. p. 465, from which it differs in having simple antennae instead of pectinated, and in the absence of abdominal tufts. The head, thorax, pectus, and femora are all hairy.

Neuration : forewing, cell more than half the length of wing ; discocellular vertical ; first median nervule at quite five-sixths, second almost from the same point as third ; radials normal ; 7, 8, 9 stalked from just before upper angle, 8 and 9 separating only just before apex ; 10 and 11 free, 10 closely approximated to stalk of 8, 9, but not anastomosing ; hindwing with costal and subcostal closely approximated for three-fourths of cell ; 6, 7, and 3, 4 from ends of cell ; no radial ; vein 2, as in forewing, at five-sixths.

Type : *Leucolithodes pantherata* Feld. (*Bryoptera*).

The type species is superficially very much like *Erilophodes arana* Dogn., described as a *Caripeta*.

Bryoptera lecideata Feld. from Chili is also a *Leucolithodes*.

NOTES ON THE SPECIMENS OF WILD ASSES IN ENGLISH COLLECTIONS.

BY R. LYDEKKER.

(Plates XVII.—XX.)

THE gift to the British Museum by Mr. N. C. Rothschild of the skeleton and mounted skin of a wild ass (No. 59), collected by himself and Messrs. Henley and Wollaston at Nakheila, Atbara River, Eastern Sudan, on February 10th, 1904, affords an opportunity of reviewing the state of our knowledge with regard to the species and races of the wild asses of both Africa and Asia. Unfortunately, owing to the lack of a sufficiency of specimens and of definite information with regard to the place of origin of several of the few available examples, such a review cannot be regarded as anything like final or complete; several points in regard to nomenclature and affinities being left for future determination. The plan followed has been to review such of the more recent descriptions of these animals as appear the most trustworthy, and to give coloured figures of specimens in the museums and menageries in this country. Of the two races here included under the specific title of *Equus hemionus* coloured figures have already appeared in a paper recently contributed by myself to the Zoological Society's *Proceedings*; and it has therefore been considered unnecessary to repeat figures of these forms in the present article.

Apart from the question of species and subspecies, wild asses have an interest from another point of view—namely coloration. In an article originally published in the *Field* newspaper, but reprinted in my volume entitled "Mostly Mammals," and in a later article which appeared in the *Field* for October 17th, 1903, I have pointed out that a large number of mammals change their colour from rufous in summer to grey in winter,* and I have also endeavoured to show that such colour-changes are in the main confined to extra-tropical species. Excellent examples of this type of colour-change are afforded by the European roe-deer, the North American white-tailed deer, and the fallow-deer; while the muntjac and the Indian chital may be cited as examples of tropical species which undergo no seasonal change of colour.

The wild asses of the extra-tropical countries conform, in greater or less degree, to both the above laws; such colour-changes as take place being from rufous in summer to grey-fawn in winter. The most marked instance of this type of change being presented by the form described below as *Equus onager castaneus*. On the other hand, the African wild asses, which are the only members of the group found within the tropics, exhibit no seasonal colour-change; their tint being at all times of the year grey-fawn, which we may perhaps venture to assume is better suited to their surroundings than sandy or rufous.

The remarkable feature in connection with the conformity of colour-change in the non-tropical species of wild asses to that which obtains in the roebuck and the

* By an unfortunate oversight, on page 24 of "Mostly Mammals" the red is said to be the winter, and the grey-fawn the summer colour.

white-tailed deer, is that in the one case it occurs in desert-haunting and in the other in forest-dwelling types. Some other cause than protective resemblance must apparently therefore be connected with the change in at least one of the two cases: as what holds good in regard to protective resemblance of this nature in the case of forest animals can scarcely also obtain in the case of desert forms. Possibly the seasonal colour-change in the smaller Asiatic wild asses may be a feature inherited from forest-dwelling ancestors. In any case, the kiang seems to have almost discarded such a seasonal change of colour—perhaps in special harmony with its surroundings, which in parts of Ladak, at any rate, show a predominance of red tints. It is further noteworthy that the colour of the kiang approximates to what we may probably regard as the ancestral colour of the horse—namely, the rufous dun, with black points and a white muzzle, displayed by the Mongolian wild pony.

So close, indeed, does the kiang come to the horse, that it seems to me impossible to refer the two species to separate subgenera. On the other hand, the former animal appears to be intimately connected, through the chigetai, with the ghor-khar and onagers. Consequently the proposed reference of the horse to the subgenus *Equus*, and the separation of the asses as a second subgenus (*Asinus*), seem no longer logical.

I. *THE CHIGETAI, OR KIANG.*

Equus hemionus.

Equus hemionus, Pallas, *Nov. Comm. Petrop.*, vol. xix. p. 395, pl. vii. (1775).

Hab. Mongolia and Turkestan, ranging northwards to Transbaikalia and westwards to Transcaspia.

Size large, the height at the shoulder reaching to 4 ft. 3 in. Ears (in comparison with those of *E. asinus*) relatively small and horselike. Hoofs large and broad, the width of the front pair markedly exceeding that of the hind ones. Tail-tuft large, and a slight rudiment of a forelock present. Dark dorsal stripe relatively narrow, reaching the tail-tuft, and (in most cases at any rate) not bordered with white. No shoulder-stripe, or dark barrings on the limbs; a dark ring immediately above the hoofs. General colour of upper-parts, in summer coat, varying from bright rufous chestnut (with a more or less marked tinge of greyish fawn on the neck) to reddish sandy; muzzle, inside of ear, throat, under-parts, inner side of legs, and a streak on the buttocks, pure white or buffish white. In the long winter coat the general colour apparently not distinctly grey, although greyish in the typical form. Cry, a "shrieking bray."

The skull of the kiang differs markedly from that of the onager, but from lack of specimens of that of the chigetai, I am unable to give the cranial characters of the species as a whole.

I have experienced great difficulty in deciding whether to regard the chigetai and the kiang as a species by themselves, or to include under the same specific title the ghor-khar and the onagers.

The kiang, as is well shown by comparing the mounted specimen in the British Museum with the example of the Somali wild ass standing in the same case, is characterised by the great width of the hoofs, more especially the front

pair. In this respect it approaches *Equus caballus* (as it does in its relatively small ears and its colour), and differs widely from *E. asinus*. The ghor-khar and onagers, on the other hand, have small and narrow hoofs, like those of the last-named species. The chigetai I have had no opportunity of examining, so far as this feature is concerned.

As regards colour, the kiang is by far the reddest of all the Asiatic wild asses, and apparently becomes but little greyer in winter. On the other hand, some of the ghor-khar and onager group are quite grey in winter; and it is difficult, from this character alone, to believe that they are specifically identical with the kiang.

I have regarded the chigetai (the type of *E. hemionus*) as nearest to the kiang, but I am told by Mr. Pocock that some individuals of the former exhibit a broader dorsal stripe than usual, and thus approach the onager and ghor-khar group; and it is thus possible that there may be a gradation from the one towards the other type. If this be so, the kiang may be entitled to rank as the type of a distinct species, under the name of (*E. kiang*), while the chigetai (*E. hemionus*) may typify a second species which may stand by itself, or may also include the various local forms of onager and ghor-khar.

As a provisional measure, I take the species *E. hemionus* to include the kiang; while the onagers and ghor-khar are grouped together as *E. onager*.

In addition to its small ears, broad hoofs, narrow dorsal stripe, and general colour, the kiang appears to be affiliated to *Equus caballus* (inclusive of the wild ponies of Mongolia, *E. c. przevalskii* or *equuleus*) by the nature of its cry, which there is little doubt is to a great extent intermediate between that of the horse and the ass. It is true that there is a certain amount of discrepancy between the accounts of the kiang's call given by different observers. General Cunningham, for instance, in his work on "Ladak," calls it a neigh, and other observers have described it as being as much like neighing as braying. On the other hand, Moorcroft, and subsequently General Strachey, described it as more like braying than neighing; the latter traveller observing that "my impression of the voice of the kiang is that it is a shrieking bray, not like that of the common ass, but still a real bray, and not a neigh." Evidently it is perfectly distinct from the bray of *E. asinus*, while, as noticed below, it also differs from the cry of one of the races of *E. onager*.

A. THE KIANG.

Equus hemionus kiang.

Equus kiang, Moorcroft, *Travels in Ladak*, etc., vol. i. p. 312 (1841).

Equus polyodon, Hodgson, *Calcutta Journal of Natural History*, vol. vii. p. 469, pl. vi. (1847): this specific name was given owing to the circumstance that in the type specimen of *E. hemionus* described by Pallas some of the incisor teeth were wanting, which was then considered to be a normal feature.

Equus hemionus kiang, Lydekker, *Proc. Zool. Soc. Lond.* 1904, i. p. 432, pl. xxviii.

Hab. Ladak and Tibet; kiang of the Ladakis and Tibetans.

Profile sinuous, being concave below the eyes, and above the nose distinctly convex. Dorsal stripe always narrow, chocolate in colour, without trace of white borders. Tips of ears, mane (which is rather long), a narrow ring just above each hoof, and tail-tuft dark brown or blackish. General colour of upper-parts full

rufous chestnut, sometimes with a tinge of greyish fawn on the neck, and tending to sandy on the rump and legs ; muzzle, inside of ear, side of neck, throat, chest, under-parts, inner side of legs, and a streak on the hinder border of the thigh, pure white, sharply defined from the rufous and fawn areas. In some instances the light area of the under-parts runs behind the shoulder so as to partly insulate the rufous of the latter. Colour of winter coat not markedly different from the summer one.

The skull of the female, which measures eighteen inches in basal length, is characterised (at all events generally) by the presence of a small but deep depression in the lower part of the forehead at the junction of the frontal with the nasal bones, just below the line of the eyes : and likewise by the intrusion of the frontals into the base of the nasals in the form of a pear-shaped projection, with the point directed forwards. In an old male skull presented to the British Museum by Brian Hodgson the frontal depression is absent, although present in two female skulls of nearly the same age, as it is in others of apparently the same sex. The first upper premolar, or "wolf-tooth," is very generally present.

The following dimensions are taken from the mounted specimens of the kiang and the Somali wild ass in the British Museum :—

	E. hemionus kiang.	*E. asinus somaliensis.*
Height at withers	4 ft. 3½ in.	4 ft. 1 in.
Length of ear	7¾ inches.	11 inches
Width of front hoof	3¾ „	2⅝ „
„ „ hind „ . . .	3⅜ „	2¼ „

The two animals being of practically the same height, the great proportionate width of the hoofs in the kiang is well displayed. In the ghor-khar they are of the narrow type of *E. asinus* ; the width of the front hoofs in a specimen standing 3 ft. 10 in. being 2½ in.

B. THE CHIGETAI.

Equus hemionus hemionus.

Equus hemionus Lydekker, *Proc. Zool. Soc. Lond.* 1904, i. p. 432, pl. xxvii.

Hab. Mongolia and Turkestan; chigetai of the Mongols, kulan of the Tatars and Kirghiz.

In its make and actions—especially of starting when alarmed with the head so elevated that the plane of the face is almost horizontal—as well as in the general type of coloration, this wild ass agrees essentially with the kiang of Ladak and Tibet. Both in the winter and summer coat it lacks, however, the distinctly rufous-chestnut tint so characteristic of the latter, while it is further characterised by the much less marked contrast between the light and dark areas of the coat : the light areas on the muzzle, buttocks, legs, under-parts, etc., being "isabella-coloured" instead of pure white, and thus much less sharply differentiated from the fawn of the rest of the body. The light areas on the neck and shoulder are also much smaller. The general colour is pale sandy fawn, with the tips of the ears, mane, dorsal stripe (which is continued down the tail) brown ; and there

seems to be but little difference in this respect between the summer and winter coats. The mane is shorter than in the kiang. Dr. Matschie describes the general colour of the upper-parts as yellowish red with a tinge of grey; the lower part of the neck being of the same colour as the body, but paler, while the under-parts, etc., are greyish white, which is not sharply defined from the fawn of the upper-parts. The brown dorsal stripe extends down the tail to the terminal tuft. In winter the colour of the coat tends, I believe, to greyish.

A male specimen from north-eastern Mongolia was living in the park at Woburn Abbey in 1903 and 1904, and is figured in the *Proceedings* of the Zoological Society for 1904.

Judging from its coloration, the chigetai should be an inhabitant of more desert country than that frequented by the kiang; and by comparing accounts of Mongolia and the Gobi with what I know of Ladak, this would seem to be the case.

The exact locality where this particular specimen was obtained (by the members of an expedition sent out by Mr. Carl Hagenbeck, of Hamburg), is the neighbourhood of Lake Balkash in Central Kobdo, north-western Mongolia, a spot lying east-north-east of Tarbogatai, the well-known hunting locality.

The skull of a female (?) wild ass in the British Museum (No. 94. 2. 8. 3), killed by Mr. St. George Littledale near Lake Koko-Nor, on the north-eastern frontier of Tibet, adjacent to Mongolia, differs from that of the kiang by the absence of the frontal pit, and may therefore belong to the chigetai. The form of the fronto-nasal suture is not shown.

II. THE ONAGER, OR GHOR-KHAR.

Equus onager.

Equus onager, Pallas, *Acta. Acc. Petrop.* 1777. p. 254, pl. xi.

Hab. The desert districts of Western and (?) W. Central Asia and North-Western India.

Size considerably less than in *E. hemionus*, the minimum recorded height being 3 ft. 8 in. and the maximum 3 ft. 10 in. Ears apparently much the same as in the latter. Hoofs narrow and ass-like; the front pair but little wider than the hind pair. Profile of face nearly straight or markedly sinuous. Tail-tuft moderate. Dark dorsal stripe very broad, in some cases stopping short of the tail-tuft, and bordered, at least posteriorly, by a band of white or whitish, which joins the white on the buttocks and the back of the thighs. Colour of upper-parts, in the summer coat, usually some shade of pale reddish fawn or sandy (isabelline); the light areas, which vary from pure white to whity-brown, much the same as in *E. hemionus*, but extending more on to the buttocks, and thence along the sides of the dorsal stripe, and in some cases occupying more of the body and head. In winter, the long and rough coat more or less decidedly grey; in one instance distinctly mouse-grey with sharply defined white areas.

The cry of the Indian ghor-khar is described as being a "shrieking bray," and therefore perhaps not unlike that of the kiang; but in the case of the Syrian onager, and probably also in that of the true onager, it is stated by the late Mr. E. Blyth to be more like that of the common ass,* to the wild forms of which

* See Jerdon, *Mammals of India*, p. 239.

animal the present species approximates not only in its narrow hoofs, broad dorsal stripe, and small tail-tuft, but likewise in the distinctly grey colour of the winter coat in at least one of the local races.

In connection with this species it may be of interest to notice that in a recent memoir Dr. J. Nüesch * has reproduced † the well-known figure of some member of the horse family incised on a fragment of reindeer antler of prehistoric age found in the cave of Kesslerloch, Schaffhausen. This figure represents a slender-limbed and small-headed equine, with an upright mane and long ass-like tail. The body is marked with what might be taken for stripes, but I think these are intended for shading, as they are scarcely more pronounced than those on the lifelike figure of a reindeer reproduced by Dr. Nüesch on the same plate.

Other noticeable features of this sketch are to be found in the distinctly concave profile of the face and the large size of the ears as compared with those in many of the contemporary sketches of the horse.

By some writers the sketch in question has been regarded as indicating the existence of a second species of horse in Europe during prehistoric times,‡ but there is much to be urged against such a view, and very little in its favour.

On the other hand, Dr. Nüesch is of opinion that the Kesslerloch sketch is intended to represent the onager or ghor-khar ; and there seems much to support this view, although the author has not noticed the most important evidence. Firstly, attention may be directed to the slender short-haired tail, which is quite unlike the same appendage in the contemporary sketches of *Equus caballus*.§ Secondly, the ears, although not proportionately so large as in the onager, are certainly superior in size to those in most of the prehistoric representations of the horse, where they are so small as to be almost unnoticeable. Thirdly, we have the concave profile of the face, which is almost the exact representation of that of the true, or North Persian, onager—the very race of *Equus onager* which we should naturally have expected to range into Western Europe in prehistoric times.

Whether certain equine teeth from Kesslerloch, described and figured by Dr. T. Studer ‖ as those of *E. onager* (*hemionus*), support the view that this species formerly occurred in Western Europe, I am not prepared to say.

A. THE GHOR-KHAR.

Equus onager indicus.

Equus indicus, Sclater, *Proc. Zool. Soc. Lond.* 1862. p. 163 ; Matschie, *S.B. Ges. naturfor. Berlin*, 1893. p. 208.

(Plate XVII.)

Hab. Typically the Indian Desert (Bickanir, Jeysulmere, and the Rann of Kutch), thence apparently ranging eastwards into Baluchistan, Afghanistan (in the north of which large herds were seen during the Boundary Commission's journey), and Southern Persia to the north of the Khorasan Desert.

If there be any transition from the ghor-khar in the direction of the kulan, or

* *Denks. Schweiz. Ges.*, vol. xxxix., art. 1, p. 1.

† *T. c.*, pl. ii, fig. 3.

‡ See Ewart, *Trans. Highland Soc.* 1904, p. 9, where the sketch is reproduced.

§ See Dawkins' *Early Man in Britain*, p. 220.

‖ *Denks. Schweiz. Ges., op. cit.*, art. 3, p. 95.

Turkestan phase of the chigetai, it should occur in the north-eastern range of the present form; but the undermentioned specimen from Meshed does not differ in stature, and but little in colour, from the typical form of the race. On the other hand, a Baluchi skull referred to below indicates a larger animal.

Height at shoulder (as given by Blanford from a wild specimen) 3 ft. 10 in. Profile of face straight. General colour of upper-parts sandy in summer, with the light band on each side of the dorsal stripe narrow, ill-defined, and whity-brown in colour; and the white on the rump not pure. The coloration—presumably in the summer coat—is described by Dr. Matschie as follows: Upper-parts bright sandy; throat, under-parts, etc., white, the white extending to the flanks; the broad dark dorsal stripe bordered with white posteriorly, and stopping short of the tail-tuft.

It will be noticed that in this description the light areas are said to be "white," whereas in the specimens mentioned below they are whity-brown. In the absence of a figure of Dr. Matschie's specimen, I have not, however, regarded this as a racial distinction, especially as he alludes to the light areas in the Syrian and Persian races as "silvery white."

The pair of wild asses figured by Gray in plate liii. of *Gleanings from the Knowsley Menagerie* under the name of *E. hemionus* (the skin and skull of one of which are in the British Museum [Nos. 46. 1. 10. 3. and 5]), and said to be from Kutch, agree fairly well with this description, being fawn in colour, with the light areas not pure white and much less than the fawn. They are evidently represented in the summer coat. These animals are, however, said to have been grey in winter; and this is confirmed by the one in the British Museum, which is in the winter dress and distinctly grey. The whitish on the hind-quarters appears to have extended well on to the buttocks.

A male wild ass purchased in the spring of 1904 by the Zoological Society of London from Professor J. C. Ewart (by whom, as a "kiang," it had been employed in mule-breeding) seems to belong to this race. This animal (Plate XVII.) was bought by Lord Arthur Cecil some years previously in India from a Baluchi horse-dealer, by whom it was stated to have been captured as a foal in the desert near Meshed, on the northern border of South-Eastern Persia, by shooting its dam while drinking at a pool.

So far as I can see, this animal presents all the distinctive features of the present race; and if this identification be correct, and the locality rightly given, the range of the latter will include that portion of Persia lying on the north-eastern border of the great salt desert of Khorasan. This desert thus seems to form the limits between the ranges of the ghor-khar and the onager.

A photograph of this ghor-khar is reproduced on p. 462 of the *Proceedings* of the Royal Society of Edinburgh to illustrate a paper by Professor Ewart, who alludes to it in the text as a kiang.

I greatly doubt whether the *Equus hamar* of Hamilton-Smith, said to be the wild ass of the province of Fars, in Southern Persia, is a distinct form. It is reported to be reddish fawn-colour, without any dorsal stripe. Certainly such an animal is unknown to modern naturalists, save by report.

The skull of the Knowsley Menagerie wild ass mentioned above (British Museum, No. 46. 1. 10. 5) has the same general contour as that of the female Syrian specimen referred to later on, the profile being sinuous, markedly convex in the upper part of the face, and then becoming very convex in the nasals, which are very short, and recall those of a rhinoceros. The basal length is 15 inches.

The skull of a young male wild ass from Baluchistan presented by Mr. W. T. Blanford to the British Museum (No. 91. 5. 13. 1) is, however, considerably larger than the preceding, measuring 17¼ in. in basal length, and also differs by its perfectly straight profile. It is in fact practically as large as a kiang's skull, but with a much narrower muzzle. There is no depression at the root of the nasals, and the fronto-nasal suture forms a very open V, with straight borders, and is thus totally different from that of the kiang.

The difference between the reputed Kutch and the Baluchi skulls is so great that it is difficult to believe it to be due merely to sex; and the suggestion therefore arises that the two specimens indicate distinct races. One theory would be that the Knowsley animals belonged to the North Persian instead of to the Indian race of the species; but their coloration (both in the plate and, so far as can be determined, in the faded skin in the British Museum) is of the Indian as opposed to the North Persian type; and in this respect these specimens appear to accord with the reputed Meshed ghor-khar.

Another alternative is that the Baluchi skull indicates a race apart from the Indian one. This latter supposition would be a not improbable one were it not that Baluchistan lies in the direct line between Kutch and Meshed, and that the wild ass reputed to be from the latter locality apparently agrees with the Indian race of the species.

The matter must remain in abeyance until a series of the skulls of wild asses from Kutch and Baluchistan are available for comparison.

B. THE KOBDO ONAGER.

Equus onager castaneus (n. subsp.).

(Plate XVIII.)

Hab. Said to be Kirghis-Nor, Kobdo, Western Mongolia.

Characterised by the straight profile of the face, the rufous isabella hue of the summer coat, the full mouse-grey colour of the winter coat, the large amount of pure white on the buttocks, and the distinctness of the pure white band on each side of the dorsal stripe, which extends quite down to the tail-tuft.

The type of this form is the Asiatic wild ass represented in Plate XVIII., which is a female purchased by the Duke of Bedford from Mr. C. Hagenbeck, and stated by the latter to have come from Kirghis-Nor. One portrait of this animal (in the possession of the Duke of Bedford) was taken in September 1903, when the animal had assumed the long grey winter coat; but the one reproduced in Plate XVIII., in July 1904, about the same time as those of the other Asiatic races. The writer is indebted to the Duke of Bedford for the sketch from which the plate is reproduced.

The broad chocolate-coloured dorsal stripe reaches to the tail-tuft, and is bordered on each side by a wide pure white band, which expands to join a large white blaze on the buttocks and the hind-surface of the thighs. The other light areas are the muzzle, throat, chest, under-parts, and inner sides and lower portions of the limbs; the inside of the ears being greyish white; elsewhere the general colour in the winter coat is grey-fawn, with a faint tinge of sandy rufous in places. In the summer coat the dark areas are bright sandy fawn or

rufous isabella, with pure white rump-patch, muzzle, and under-parts ; the sides of the face and throat, as well as the outer sides of the lower parts of the legs, being pale isabella, as is an indistinct line running up the flank in front of the thigh.

In no other onager with a uniform body-colour that I have seen is there such a large, pure white rump-patch, although there is an approach to this in one of the two specimens figured in the "Knowsley Menagerie." The continuation of the dorsal stripe down the tail seems also to be peculiar ; while the full grey of the winter coat is noticeable. From the specimen here referred to *E. o. indicus*, the present animal is distinguished by the pure white light areas and the large size of the rump-patch. The latter character, together with the extension of the dorsal stripe to the tail-tuft, the small size of the light area on the flanks, the larger amount of whity-brown on the sides of the face, and the straight profile, distinguish it from the description of *E. o. hemippus*. I am therefore inclined to regard this animal as representing a distinct race. Lack of specimens precludes, however, anything like certainty in this determination. If the locality be correct, it largely extends the range of the species.

C. THE SYRIAN ONAGER.

Equus onager hemippus.

Equus hemippus, E. Geoffroy, *C. R. Ac. Paris*, Vol. xli. pp. 1214 and 1220 (1885) ; Matschie, *S.B. Ges. naturfor. Berlin*, 1893. p. 208.

Hab. Syria (deserts between Bagdad and Palmyra), Mesopotamia, and North Arabia.

Dr. Matschie describes this race—seemingly in the summer coat—as follows :—

"Colour of upper-parts reddish isabelline ; the dorsal stripe not reaching the root of the tail, the tip of which is moderately haired ; neck and outer side of limbs isabella-coloured ; throat, under-parts, a broad band on each side of the dorsal stripe, hind border of thigh and an oblique band above the flanks silver-white. Ears [and (?) head] relatively small."

The skull of a Syrian wild ass in the British Museum (No. 67. 12. 3. 1) is characterised by its very small size (basal length $14\frac{3}{4}$ in.), and the markedly sinuous outline of the profile, which would thus appear to be very similar to that of the true onager. The present race would accordingly appear to be characterised by its small size, coupled with the sinuous profile of the face and the predominance of the fawn over the white areas on the body.

D. THE PERSIAN ONAGER.

Equus onager onager.

Equus onager, Pallas, *Acta Acc. Petrop.* 1777. p. 254, pl. xi. ; Matschie, *S.B. Ges. naturfor. Berlin*, 1893. p. 208

Asinus onager, Hamilton-Smith "Naturalist's Library," *Equidæ*, pl. xviii. (1841).

(Plate XIX.)

Hab. Northern Persia ; Pallas's type locality being Kasvin, in the north-west, near the southern shore of the Caspian Sea.

Characterised by the predominance of the white over the fawn-coloured areas on the body and head, and the markedly sinuous profile of the latter.

The Persian onager would appear to be the race of the present species most specially adapted for a purely desert existence, so far as coloration is concerned.

The identification of the under-mentioned specimens with this race (and consequently the distinctive characteristics of the race itself) depends, in the first place, whether the example figured by Colonel Hamilton-Smith really came from North Persia; and, secondly, whether the one described by Dr. Matschie was likewise a native of that district.

Dr. Matschie's description of a young male referred to this race living in the Berlin Zoological Gardens in 1883, is as follows:—

"The head is relatively high, with a convex ram-like profile to the face, and the ears comparatively small. At the termination of the sharp and upright mane commences a broad dark dorsal stripe, becoming narrower and less well defined at the withers, but expanding at the loins, and on the rump diminishing to a narrow line, which disappears some distance above the tail-tuft. This dorsal stripe is bordered by a broad silvery white band on each side. Root of tail, hinder edge of hips, a broad area above the flanks and likewise the shoulder, the under-parts, legs, the throat, and the muzzle, silvery white. Upper part of head, sides of the neck, a small ill-defined oblique band in front of the shoulder, a larger quadrangular patch on the sides of the body, the middle of the hips, and the upper parts of the limbs, pale isabella-colour."

Briefly summarising this description, the same author gives the leading features of this race as follows:—

"Colour silvery white; the dorsal stripe not reaching the tail-tuft; head, sides of neck, a small, ill-defined band in front of the shoulder, a larger quadrangular patch on the sides of the body, middle of the hip, and upper part of the limbs isabella-colour."

Allowing for the circumstance that the colour has been printed too low down, so as to render the belly and throat fawn-coloured, and the back and upper part of the neck white, this description accords very well with the figure of the onager (country not stated) given in plate xviii. of Col. Hamilton-Smith's volume on Horses in Jardine's "Naturalist's Library."

If these identifications be correct, the present race is the lightest in colour of all the Asiatic wild asses, the fawn-coloured area being reduced to large isolated patches.

A pair of wild Asiatic asses received in exchange by the London Zoological Society in 1892, and still living in the menagerie in the Regent's Park, agree in all essential respects with the preceding descriptions. Both show the remarkable contour of the profile of the face, in which the forehead is swollen and convex, while the nasal region is concave. In both the greater part of the head is white, and the white areas on the body predominate over the fawn-coloured, which in the summer coat is pale sandy. This predominance of the pure silvery white areas is, however, somewhat more marked in the female (Plate XIX.) than in the male.

Both specimens are clearly referable to the same race as the one figured by Col. Hamilton-Smith and the young example described by Dr. Matschie. There appears to be no record of their place of origin.

III. *THE AFRICAN ASS.*

Equus asinus.

Equus asinus, Linn., *Syst. Nat.* vol. i. p. 100 (1766).
Asinus vulgaris, Gray, *Zool. Journ.* vol. i. p. 244 (1845).

Hab. In a domesticated condition, the whole habitable world; as a wild animal, North-eastern Africa, south of the Tropic, from Upper Nubia to Somaliland. This is the only wild ass found within the tropics; and it is interesting to note that it is the only one which is completely grey at all seasons of the year.

The typical form of the species appears to be the domesticated ass of North-western Europe.

Size (in the wild state) medium or large, the height at the shoulder ranging from 3 ft. 9½ in. to 4 ft. 1 in.* Ears very long. Hoofs small and narrow, with no marked superiority in the size of the front pair. Tail-tuft moderate, and no trace of a forelock. Dark dorsal stripe narrow, and in some cases discontinuous, not reaching tail-tuft, and without white borders. Either a shoulder-stripe or dark barrings on the legs, or both together (in domesticated race); no dark ring above the hoofs. A distinct white ring round the eye; no white on buttocks or rump. General colour of upper-parts (at all seasons) pure or tawny grey-fawn; muzzle, a ring round each eye, under-surface of lower jaw, inside of ear, under-parts, and inner-surface and much of lower portion of legs, pure white. Apparently no marked (if any) difference, either in colour or length, between the summer and the winter coat. Cry, a bray.

A. THE NUBIAN WILD ASS.

Equus asinus africanus.

Equus africanus, Fitzinger, *Naturgeschichte Säugethiere*, vol. iii. p. 666 (1857).
Equus asinus africanus, Sclater, *Proc. Zool. Soc. London*, 1884. p. 542; Forbes, *Sokotra and Abd-el-Kuri*, p. 9, pl. ii. (1903).
Equus taniopus (in part), Heuglin, *Petermann's Mittheilungen*, 1861. p. 19.
Equus asinus, de Winton, in Anderson's *Mammals of Egypt*. p. 329 (1902).

(Plate XX.)

Hab. North-eastern Africa, that is to say Senaar and Nubia, ranging formerly as far as the fifth cataract of the Nile, and eastwards to the River Atbara and the Danakil district, but not extending into Abyssinia. Half-wild in Socotra. Year by year the range of this race appears to become more and more restricted; and unless special measures be taken for its protection, there appears considerable danger that this handsome animal may become exterminated.

Characterised by its generally inferior size (ranging from about 3 ft. 9½ in. to 3 ft. 11½ in.) as compared with the Somali race, the generally greyish fawn-colour, the continuous, although very narrow dorsal stripe, the presence of a short shoulder-stripe, and of a dark patch on each side of the front fetlock, and the absence of distinct dark barrings on the legs.

* These measurements, like that of the kiang (p. 586), are taken from stuffed specimens: the height of a mounted specimen of the ghor-khar in the British Museum agrees precisely with that taken by Blanford in the flesh.

The following is the description of the skin (of which the head is mounted) of a mare shot by Mr. H. W. Haig, at Yalalub, in the Eastern Sudan, and presented by that gentleman in 1901 to the British Museum, where it bears the register number 1. 7. 1. 1.

"General colour of upper-parts greyish fawn, with the muzzle, a broad ring round each eye, the under-surface of the lower jaw (inter-ramine space), the angle of the throat, and the under-parts, white or whitish; the legs being of the same pale hue, with some greyish on the front surface, and a few small dark spots on each side of the fetlocks. The mane, which commences between the ears, is short, upright, and dark brown or blackish in colour. The narrow dorsal stripe measures from $\frac{3}{8}$ to $\frac{1}{2}$ in. in width, and is continued as a thin line well on to the tail; the two branches of the shoulder-stripe, which are of about the same width as the dorsal one, are about 5 in. in length. The long hairs of the terminal tail-tuft, measuring about $5\frac{1}{4}$ in. long, are mingled black and grey. The ears are about $10\frac{1}{2}$ in. in length, and are black at their tips on both surfaces, for a short distance. On the inner side of the lower part of the fore-leg is a chestnut patch of 2 in. in length."

Another skin, from near Kassala, referred to by Mr. de Winton, agrees in all respects with the preceding, although the hair has acquired a faint yellowish tinge in the process of curing. Apparently the specimen living in the London Zoological Gardens in 1884, and figured on a very small scale by Dr. Sclater in Plate L. of the Zoological Society's *Proceedings* for that year, was likewise of the same general type.

The specimen forming the subject of Plate XX. of the present article is a young but adult male, collected (with two others) by Messrs. Charles Rothschild, Henley, and Wollaston, on February 10th, 1904, at Nakheila, on the south bank of the Atbara River, in the Eastern Sudan. Of this animal the skin (mounted by Rowland Ward, Ltd.) and skeleton were presented by Mr. Rothschild to the British Museum. The second example from the same locality is mounted in the Museum at Tring, and the third in the Edinburgh Museum.

The figured specimen, as mounted, stands 3 ft. $9\frac{1}{2}$ in. at the withers; the ear is $10\frac{1}{2}$ in. in length, and the width of the front hoof $3\frac{1}{8}$ in. The general colour (of the winter coat) is pale grey fawn; the mane is short and sparse; and the ears and head are proportionately very large, the latter being of nearly the same size as in the much larger Somali race. The blackish dorsal stripe is extremely narrow, and the shoulder-stripe, which gradually narrows to a point, extends only about 6 in. on each side of the middle line; the dorsal stripe becomes almost obsolete above the tail-tuft. There is an irregular brownish patch on each side of the front fetlock—larger on the inner than on the outer side—but no other markings on the limbs.

A somewhat older male, killed in the same locality and now in the Edinburgh Museum, stands, as mounted, 3 ft. $11\frac{1}{2}$ in. at the withers; and a third example, now in Mr. Rothschild's Museum at Tring, is fully as large.

Both in Mr. Sclater's paper on the Somali wild ass and in the notice of the Nubian race in Anderson's *Mammals of Egypt*, reference is made to the impossibility of employing Baron Heuglin's *Equus taeniopus* for either. According to Heuglin, it is the Nubian wild ass that has barred legs and no shoulder-stripe, and the Somali animal in which these conditions are reversed; and it would accordingly seem that he transposed the localities of his specimens.

Considerable interest attaches to the account of a small breed of wild asses of this race inhabiting the island of Socotra given in Dr. Forbes's *Natural History of Sokotra and Abd-el-Kuri*. The author of this notice states that his companion and himself were struck by the beauty of these animals, "and by the perfect similarity in colour and markings of the large number seen. In all, the nose and a wide ring round the eye, as well as the chest and belly, were white, the legs nearly so, contrasting strongly with the mouse-coloured head and back, while the black stripes on the shoulder and down the middle of the back, and a few somewhat irregular dusky rings round the legs, were clearly defined."

One of these asses, which stand only about 3½ ft. at the shoulder, is represented in Plate II. of the work cited, and appears to be a miniature of the truly wild Nubian race, the markings on the legs being confined to a few streaks near the fetlocks.

"There can be little doubt," it is observed in the work last cited, "that the wild asses of Socotra are the feral descendants of animals imported many centuries ago. The natives, when questioned on the subject, stated that they have been there from time immemorial; and the entire absence of colour-varieties among the number we saw leads us to believe that their statement is correct."

After remarking on the curious circumstance that the Socotran wild ass is different from the one inhabiting the adjacent portion of the African mainland, Dr. Forbes proceeds as follows:—

"When we remember, however, that the great trade route of ancient Egypt, and later of the Romans which started from Bernice, passed down the Red Sea to Arabian and Somaliland ports, this circumstance is less surprising. It is consequently by no means improbable that the progenitors of the Socotran wild ass may have actually come from a Nubian port to their present home; and that the introduction of this race into the island may very likely date back to those far distant days. The difference of the *Equus asinus africanus* from the common domestic breed strikes one at once. Among the animals employed in conveying our baggage from the shore where it was landed to our camp on the Hadibu plain was a donkey which at once attracted my attention, not only by the burden so disproportionate to its size which it carried, but by its bright and sharply defined markings. It was only later that I recognised it as a tamed wild ass."

B. THE SOMALI WILD ASS.

Equus asinus somaliensis.

Equus somaliensis, Noack, *Zool. Garten*, 1884. p. 374.
Equus taeniopus (in part.), Heuglin, *Acta Ac. German*, vol. xviii. pl. 1 (1861).
Equus somalicus, Selater, *Proc. Zool. Soc. Lond.* 1884. p. 540, pl. 2.
Equus nubicanus somalicus, Peel, *Somaliland*, p. 300 (1900).

Hab. Somaliland, through Danakil and Gallaland, to the Red Sea.

Distinguished from the Nubian race by its superior size, the paler and more greyish colour, the absence of a shoulder-stripe, the slightly developed and discontinuous dorsal stripe, and the presence of a number of distinct black bars on the legs, and of a brownish patch on the front of each foot above the hoof. The head and ears are also relatively shorter, with less black on the front of the tips, the mane is longer and inclined to be pendent; and the white round the eye and

on the muzzle is less pure and less sharply defined from the fawn, while there is no white on the underside of the lower jaw and the angle of the throat.

The general characters of the Somali specimen living in the Zoological Society's Menagerie in 1884 are given by Mr. Sclater as follows:—

Size larger than in *E. a. africanus*; colour pure grey; dorsal stripe obsolete, and shoulder-stripe wanting; mane comparatively long and pendent; legs with numerous and distinct bars.

In Mr. Sclater's figure of the Zoological Society's specimen the ring round the eye is not complete; but this must apparently be either an individual peculiarity, or due to the fault of the artist.

The following is the description of a Somali male specimen presented to the British Museum in 1893 by Colonel A. Paget:—

Height at shoulder 4 ft. 1 in.; general colour of upper-parts French grey, speckled with white, and passing into sandy on the front of the lower part of the face. Under-parts, the front of the thigh, and the inner sides and lower portions of both legs dirty white, the white being less marked on the abdomen than elsewhere. The white on the muzzle and round the eyes much less pure and less sharply defined than in the Nubian specimens in the Museum, and that surrounding the eyes forming a much less regular, and less well-defined ring. No white on under surface of lower jaw (inter-ramine space) or at angle of throat. Ears measuring 11 in. in length, with the black on the inner surface of the tips scarcely extending beyond the margins. Mane of considerable length, and tending to become pendent. Dark dorsal stripe visible only as very short and narrow streak between the mane and the crest of the withers. Front and outer side of fore-legs, and the same portions of the hind-legs below the hocks, marked with a few irregular blackish bands, and a dark patch above each hoof in front.

NEW SPECIES OF PTEROPUS, MUS, AND POGONOMYS FROM THE AUSTRALIAN REGION.

By OLDFIELD THOMAS.

The following new mammals are among the collections recently obtained in Papuasia and Australia by Messrs. Meek, Tunney, and Pratt.

1. Pteropus solomonis spec. nov.

A small species allied to *P. brunneus* and *aneiteanus*, with short ears; the hind-limbs furred two-thirds down the tibiae.

Size about as in *P. aneiteanus*. Fur short, woolly for the most part, but straight and smoothly adpressed on the middle third of the back, where it is about 2 in. across. A line along the outer side of the proximal third of the forearm thinly clothed with fine brown hair. Upper surface of hind-limbs covered with woolly hair about two-thirds down the tibiae, the ankles and feet naked.

Ears short and narrow, their anterior edge evenly convex, tip narrowly rounded, outer edge faintly concave above, convex below.

Colour of head brown ("hair-brown"), the end of the muzzle with a whitish sheen; woolly hair of occiput, nape, and shoulders coppery rufous (between russet and walnut-brown of Ridgway). Straight hairs of back "seal-brown." Woolly hair of rump and hind-legs brown, with shining coppery ends. Below, the throat and sides of the chest and belly are dull rufous brown, darkening along the centre line to blackish brown.

Skull light and delicate, the braincase of the same narrow form as in *P. aneiteanus*. Palate narrow, the toothrows evenly divergent, not curved. Upper incisors broad and spatulate, touching one another. Canines small. Anterior upper premolars present, but exceedingly minute. Sizes of molars about as in *P. aneiteanus* (see dimensions).

Dimensions of the *type*:—

Forearm, 108 mm.

Head and body (skin), 180 mm.; ear (dry), 16; thumb (s.u.), 38; tibia, 50; lower leg and foot (c.u.), 80.

Skull, greatest length (c.), 54 mm.; tip of nasals to angle behind postorbital processes, 24·3; interorbital breadth, 6·7; breadth of braincase, 19; length of palate from gnathion, 29·3; breadth between inner sides of m^1, upper incisive row, 7·3; length of canine from cingulum, behind, 5; horizontal length of last premolar, 3·9; of m^1, 4; m^2, 5·1; m^3, 1·8. Below, length of canine, 4·1; horizontal lengths of the six cheek teeth in succession, 2, 3·8, 3·9, 4, 3·2, 1·7.

Hab. Gizo Island, Solomons.

Type: an old *female*, B. M. No. 4. 4. 11. 1. Collected November 10th, 1903, by Mr. A. S. Meek.

This species differs from *P. aneiteanus* by the nakedness of the lower part of the tibia and the absence of the whitish hairs on the shoulders, and from *P. brunneus* by its smaller size and much smaller teeth. Its coloration is not unlike that of *P. brunneus*, allowing for the fading of Dobson's type.

2. **Mus verecundus** spec. nov.

A peculiarly built species, with long slender feet. Mammae 1—2=6.

Size about as in *Mus rattus*. Fur soft and straight, hairs of back about 15 mm. in length, a small number of softer piles, about 20 mm. long, intermixed on the hinder back. Whiskers unusually strong and numerous. General colour above sepia-brown, faintly "ticked"* with buffy. Undersurface dull slaty buffy, not defined laterally, the bases of the hairs broadly slate-coloured, the tips dull buffy; chin not lighter. Head greyish, darker than back, and with less buffy suffusion. Ears short, laid forward in a spirit specimen they barely reach to the middle of the eye, practically naked, slaty grey. Arms and legs coloured like the body, scarcely lighter on their inner surfaces; upper surface of metacarpus brown, digits white; hindfeet unusually long and slender, the lengthening being mainly in the metatarsus; soles naked, smooth, the last pad elongate, fifth hindtoe nearly reaching (without claw) to the middle of the first phalanx of the fourth; upper surface of metatarsus brown, digits lighter. Tail rather longer than the head and body, evenly ringed (scale-rings about 10 to the centimetre), finely haired, not pencilled, though rather more hairy terminally; hairs about 1½—2 scales in length: uniformly brown above and below, the terminal ½ in. white. Mammae 1—2=6; the anterior behind the axillae; clitoris very long.

Skull smooth and rounded, the braincase small and the muzzle remarkably long. Nasals long, narrow behind, much expanded anteriorly. Supraorbital edges, even in old specimens, but very slightly ridged, the ridges quite inconspicuous where they cross the parietals. Interparietal fairly large. Anterior edge of zygomatic plate slanting, scarcely convex. Palatal foramina large, widely open, just reaching to the level of the front root of m^1. Palate ending well behind m^3. Bullae small.

Incisors narrow, smooth in front. Molars worn down in both Aroa specimens, but apparently—and in the Dinawa specimens—of a very simple murine type. In one of the latter examples, young, the molars, as compared with those of *Mus rattus*, are very similar, with the exception that there is no antero-external supplementary cusp on m^2, or external one on the second lamina of m_2.

Dimensions of the *type*, measured in skin :—

Head and body (stretched), 170 † mm.; tail, 168; hindfoot, 34; ear, 18.

Skull, greatest length, 40·5 mm.; basilar length, 32; zygomatic breadth, 18; nasals, 15·2 × 4·8; interorbital breadth, 6; breadth of braincase, 16; interparietal, 5 × 9; zygoma root, 3·4; palate length from henselion, 18·6; diastema, 11; palatal foramina, 7·1 × 3; length of upper molar series, 6·7.

Hab. Avera, Aroa River, British New Guinea.

Type: an old *female*. B. M. No. 3. 12. 1. 1. Collected May 31st, 1903, by A. S. Meek.

Two specimens.

Two other specimens, in spirit, apparently of the same species, were collected at Dinawa, Owen Stanley Range, altitude 4000 ft., by Mr. A. E. Pratt.

* From the French *tiqueté*. A word to express a colour smoother and less coarsely variegated than "grizzled" or "mottled" is often wanted in writing descriptions of mammals, and "ticked" might be made to serve the purpose.

† True head and body length probably about 150 mm.

This rat is a very peculiar one, and I have considerable doubt whether it ought to be put in *Mus* at all, but in the absence of marked differential characters of generic importance I do not think it advisable to form a genus for it at present.

3. **Mus colletti** spec. nov.

A dark-coloured spinous rat, with 3—3=12 mammae.

Size medium. Fur of medium length, ordinary hairs of back about 12 mm. in length, liberally mixed on the rump with longer piles attaining 30 mm., and also, to a very variable extent, with flattened spines, about 12 mm. long and $\frac{1}{4}$ mm. in breadth. General colour above heavily lined grizzled greyish brown, not unlike that of *Mus sordidus*, Gould, the spinous hairs and the long piles broadly tipped with black, the others with creamy buff, the latter colour becoming rather more dominant on the sides. Undersurface pale soiled buffy, not sharply defined, the slaty bases of the hairs showing through. Face dark grizzled grey, like back. Ears of medium size, almost naked, brown, their extreme edges lighter. Outer side of arms and legs like back, inner sides like belly; upper surface of hands and feet dull whitish or brownish white. Tail rather shorter than head and body, prominently scaled (12 rings to the centimetre), well haired, the hairs averaging about 2 scales in length proximally, shorter and less numerous terminally; uniformly black. Mammae, 3—3=12.

Skull not unlike that of *M. sordidus* in general shape, though smaller; the interorbital region similarly narrow, its edges margined by a well-marked bead running back to the outer corners of the interparietal. Zygomatic plate broad, convex above. Palatal foramina long, narrow, reaching back to the anterior lamina of m^1. Bullae fairly large.

Dimensions of the *type*, measured in skin:—

Head and body, 136 mm.; tail, 107; hindfoot, 29; ear, 16.

Skull, basilar length, 31 mm.; zygomatic breadth, 18·5; nasals, length, 12·5; interorbital breadth, 4·7; braincase, breadth, 14·6; zygomatic plate, 4·2; palate, length, 17·3; diastema, 10; palatal foramina, 7·3×2; length of upper molar series (worn down), 6·3; of another specimen, 6·6.

Hab. S. Alligator River, Northern Territory, Australia.

Type: an old *female*. B. M. No. 4. 4. 4. 4. Original number, 1838. Collected August 30th, 1903, by Mr. J. T. Tunney; presented to the British Museum by the Hon. Walter Rothschild.

"Dug out of hole in open clay flats."

Twenty-five specimens examined.

This rat is perhaps a tropical representative of *Mus sordidus*, which it resembles in its dark colour and general characters; but it is smaller than that species, and far more harshly clothed, *M. sordidus* being quite a soft-furred animal. Correlated with the harshness of the fur the strong lining of the back is unusually conspicuous, almost resembling in this respect the members of the genus *Sigmodon*.

I have named this species in honour of my friend Dr. Robert Collett, of Christiania, the author of the chief paper on the mammals of the region in which it occurs.*

* *P. Z. S.* 1897, p. 317.

4. **Pogonomys dryas** spec. nov.

Closely allied to *P. mollipilosus*, but ears much larger.

Size, proportions, and other essential characters as in *P. mollipilosus*. General colour above dull buffy brown; head and sides lighter and denser buffy. Undersurface pure sharply defined white. Ears of medium size; laid forward in the spirit specimen they reach to the centre of the eye; their front edge nearly straight, end broadly rounded; practically naked, pale greyish. Upper surface of hands and feet white or brownish white. Tail long, finely scaled (12 rings to the centimetre), practically naked, pale brown throughout* except on the naked and prehensile terminal portion above, which is pale flesh-coloured. Mammae 1—2=6.

Skull closely similar to that of *P. mollipilosus*, but slightly larger; frontal region flatter; braincase smaller; palatine foramina more strongly curved; but the differences in all cases very slight.

Teeth of the typical *Pogonomys* pattern, not of the more complicated *Chiruromys* type; their size and structure quite as in *P. mollipilosus*.

Dimensions of the *type*, measured in spirit:—

Head and body, 114 mm.; tail, 184; hindfoot, 23·5; ear, from notch, 15; from crown, 12·3; breadth, 11·8.

Skull, greatest length, 32 mm.; basilar length, 27·6; greatest breadth, 18·7; nasals, 11×3·3; interorbital breadth, 4·4; breadth of braincase, 14·8; palate length, 15; diastema, 9·8; palatal foramina, 4·5×2·9; length of upper molar series, 6·3.

Hab. Dinawa, Owen Stanley Range, British New Guinea; altitude 1300 m.

Type: an adult *female* in spirit. B. M. No. 4. 4. 10. 6. Collected by Mr. A. E. Pratt.

Two skins from Avera, Aroa River (Coll. Meek).

This species is very closely allied to *P. mollipilosus* Peters & Doria, obtained at Katau, near the mouth of the Fly River, of which the typical skull has been kindly lent me by Dr. Gestro for comparison. That animal, however, has so much smaller an ear (length from notch 11 mm., above crown 9·2, breadth 9), that I do not feel justified in assigning the Dinawa form to it; moreover, its tail is differently coloured, being brown for its basal third only, then marbled, and finally wholly yellow above and below.

* The Avera specimens have a few pale markings on the middle third of the tail.

TWO NEW *SATURNIIDAE*.

By THE HON. WALTER ROTHSCHILD, Ph.D.

1. **Rothschildia steinbachi** spec. nov.

♂. Allied to *R. stuarti* Rothsch., which may turn out to be the same as *R. condor* Staud., *Iris* vii. p. 84 (1894). Head and breast pale rufous red; legs and underside of abdomen yellowish grey; abdominal tergites edged with grey, the two grey longitudinal lines generally present in this genus thin.

Wings of a peculiar olivaceous wax-yellow colour distally, paler than in *stuarti* also from base to discal line.——Forewing: antemedian band more evenly curved than usually in this genus; discal spot anguliform as in *stuarti*, closer to the discal line, which it touches in the *type*-specimen, broader distally, its posterior projection proportionately shorter; discal line strongly crenate; the two upper black submarginal spots proximally bordered by a red and then by a white line as in *stuarti*, but these lines more sharply defined.——Hindwing: semivitreous patch triangular, proximally not rounded as in *stuarti*, but emarginate, touching the strongly crenate discal line or extending close to it.

Underside much paler than in *stuarti*, only slightly washed with red, the hindwing being almost entirely olivaceous wax-yellow; black lines and spots very prominent; discal lines strongly crenate; submarginal line of hindwing dark wax-yellow, the black spots situated proximally of it prominent.

Length of forewing: 40—42 mm.

Hab. Tucuman (J. Steinbach).

3 ♂♂.

2. **Opodiphthera papuana** spec. nov.

♂♀. Similar to *O. astrophela*; smaller, upperside of antenna more tawny, sides of palpi and upper surface of foreleg purple-brown.

Forewing much shorter than in *astrophela*, with the distal margin straight (♂) or convex (♀), not emarginate; costal area irrorated with purple-brown as far down as eye-spot, the latter circular on both wings, with a much larger brown-black centre than in *astrophela*; the discal line of both wings followed by a row of more or less luniform small spots, which are more distinct in the ♀ than in the ♂.——On the hindwing the discal line is crenate, and there is a nearly straight submedian line proximally of the eye-spot.

Underside deeper yellow than upper, both wings irrorated anteriorly with purple-brown; antemedian lines heavy on both wings, submedian line of hindwing vestigial; discal line of hindwing undulate; postdiscal lunules prominent on both wings; purple-brown outer ring of eye-spot of forewing distally very thin, as is also the case on upperside.

Hab. Astrolabe Bay, German New Guinea.

1 ♂, 2 ♀♀.

FURTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE SIPHONAPTERA.

BY THE HON. N. C. ROTHSCHILD, M.A., F.L.S.

(Plates VII.—XVI.)

Lycopsylla gen. nov.

THE front of the head bears a small sinus, which is limited behind by a very distinct tooth (Pl. VII. fig. 1). The genal edge of the head is produced downwards into a beak-like process as in *Hectopsylla*. The labial palpus consists of five segments; the first and third segments are somewhat broader than long; the third, which is not quite twice as long as broad, is a little longer than the fourth and somewhat shorter than the fifth. The mandibles are not distinctly serrate; in *Hectopsylla* they are very strongly serrate. The maxillae are long, rather narrow, and obtuse at the apex. The eye is distinct. There are no combs. The seventh abdominal tergite has no apical bristles. The hindcoxa is devoid of the comb of spines which is found in many *Pulex*. The fifth segment of the tarsi is long, and bears on each side six stout spines, besides a thinner subapical bristle, while *Hectopsylla* has only four spines and a subapical bristle. On the ventral surface of this segment there are two contiguous apical bristles. The claw is long and simple, the basal projection being very small and the oblique striation being absent as in *Hectopsylla*. The anal segment of the ♀ is devoid of a stylus.

This genus is allied to *Pulex*, but differs markedly in the characters mentioned.

1. Lycopsylla novus spec. nov. (Pl. VII. fig. 1. 2. 3. 4).

Head.—The head bears on the dorsal surface a great number of short hairs situated in punctures. There is a row of three long bristles between the eye and the maxillae. The bristles near the hinder edge are short and few in number. The second segment of the antenna is devoid of the regular series of bristles found in *Pulex irritans* and allies, there being present only a few bristles at the anterior and posterior sides. The first and second segments of the maxillary palpus are of equal length, the third is only half the length, and the fifth is a little longer than the second. The rostrum reaches to the trochanter.

Thorax.—The bristles of the thorax and abdomen are very thin. The three thoracical segments bear each one row. The mesonotum has in addition two long thin subapical spines, and the metanotum a few short hairs in the middle. The epimerum of the mesothorax bears two bristles, one at the stigma and the other in front. The epimerum of the metathorax bears also only two bristles, one close to the stigma and the other in the middle towards the ventral edge.

Abdomen.—The first abdominal tergite bears two rows of hairs, while tergites 2 to 7 have only one row. The anterior row of the first segment does not extend far down. The stigma stands on segments 2 to 7 below the most ventral bristle, and there is very often a wide interspace between the first and second bristle. The sternite of the second segment bears a patch of three to seven hairs on the side; the following five sternites bear a row of four or five bristles.

Legs.—The forecoxa bears eight or nine hairs near the anterior edge and a series of five at the hinder edge, there being no hairs on the posterior portion of the outer surface. The mid- and hindcoxae bear at the apex posteriorly one bristle, and anteriorly a row of about six. The femora have no bristles at the ventral edge near the base ; there are two ventral bristles near the apex one on each side, that on the outerside being the longer. Each femur bears one hair on the innerside towards the base, and the anterior femur several hairs on the outer surface. The tibiae are stout and do not bear any hairs at the ventral edge, apart from the apical bristles. The anterior tibia is not longer than the fifth tarsal segment (claw excluded). The spine-like bristles of the tibiae and tarsi are very heavy. The longest dorsal apical bristle of the midtibia reaches beyond the middle of the second tarsal segment. The hindtibia bears three hairs on the outer surface towards the ventral side. The fourth segment of all the tarsi is stout and cup-shaped. The first segment of the hindtarsus is not quite half the length of the tibia. The measurements of the tarsal segments are :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus . .	15	17	14	10	38
Midtarsus . .	23	25	17	13	40
Hindtarsus . .	40	35	19	15	40

Modified Segments.—For the clasping organs compare Pl. VII. fig. 2.

The manubrium (M) is narrow and curved upwards, the clasper very large and rounded at the top, bearing a great number of short hairs at and near the edge. The finger (F) is very strongly chitinised, slender, produced into a point, and bears a row of hairs on the inner surface. There are, besides, three very short hairs at the hinder edge near the apex, and some longer ones farther down. The ninth sternite is narrow and bears ventrally a series of single hairs. The eighth tergite (VIII. t.) of the ♂ is enlarged and bears many bristles, three of which standing at the edge are long. The eighth tergite of the ♀ bears a dense patch of bristles at the apex on the innerside (Pl. VII. fig. 3), and some longer ones on the outerside (Pl. VII. fig. 4).

Length : ♂, 3·08 mm. ; ♀, 4·1 mm.

We are indebted to Dr. J. P. Hill for six examples of this species :

1 ♂, Hampden, New South Wales, December 17th, 1899. *Phascolomys mitchelli.*

5 ♀♀, „ „ „ „ „ „

Malacopsylla.

Malacopsylla Weyenbergh, *Periodico Zoologico* iii. p. 271 (1881) (type : *grossiventris*).
Megapsylla Baker, *Journ. N. York Ent. Soc.* iv. p. 53 (1898).

Weyenbergh proposed the generic term *Malacopsylla* for the species of flea described by him previously as *Pulex grossiventris*. The diagnosis of the genus is very short. The author says : ". . . Pero cuando mi *P. testudo* pertenece al género *Hectopsylla*, entónces es cierto qui mi *P. grossiventris* non puede pertenecer al mismo género, porque la diferentia en el habito general es demasiado grande, á pesar de que á la primera vista haya alguna semejanza, lo que, por lo mas, puede indicar una aliacion entre los géneros. . . . *P. grossiventris* probablemente

debe formar un nuevo género para, el cual en tal caso, quisiera proponer el nombre de *Malacopsylla* m. por causa del vientre blando de la hembra."

The long description of this insect given by Weyenbergh does not fit the two species I describe below, though one of them was sent to me as *grossirentris*, being thus named, doubtless, because it was found on *Dasypus minutus*, which is the host given for *grossirentris*.

Baker, having overlooked the name *Malacopsylla*, diagnosed a genus *Megapsylla*, *l.c.*, basing his diagnosis on ♂♂ and ♀♀ of what he supposed to be *grossirentris*. These ♂♂ belong, however, to a different species than the ♀♀, if his specimens are really specifically the same as ours. Anyhow, for the present *Megapsylla* must sink as a synonym of *Malacopsylla*, until it is shown that Baker's two species called by him *grossirentris* are generically distinct from Weyenbergh's *grossirentris*.

2. **Malacopsylla androcli** spec. nov. (Pl. VII. fig. 10; VIII. fig. 11. 12. 14. 15).

Head.—The head (Pl. VIII. fig. 11), which is similar in the two sexes, is punctured all over, and bears a small frontal tubercle. A depression situated just in front of the eye extends from the antennal groove obliquely forward to the oral edge, separating a broad rounded ventral lobe from the frontal part of the head. At this groove there are two bristles near the eye, one above the other, and two more between them and the oral edge. There are also some hairs at the frontal edge near the maxillary palpus. The occiput bears only two or three subapical bristles on each side, and in the ♂ two more bristles above the antennal groove. The row of fine hairs along the antennal groove is distinct in the ♂, while it is very much reduced in the ♀. The second segment of the maxillary palpus is half as long again as the third, and as long as or longer than the fifth, the latter appearing rather strongly rounded when looked at from the flat side, and bearing a number of very short hairs along the inner and apical edges. The rostrum reaches nearly to the apex of the anterior coxa. Its segments 2 and 3 are nearly the same in length, 4 is a little longer, and 5 half as long again as 4.

Thorax.—The prothorax has no comb. It bears a row of very long bristles situated close to the base (Pl. VIII. fig. 11), a solitary, very long bristle in the middle of the ventral edge above the stigma (st.), and some very thin and short hairs laterally towards the apical edge. On the mesonotum there is a row of numerous very fine hair-like spines near the apex. The metanotum, which is much longer than broad, has a row of bristles beyond the middle. The epimernm of the metathorax bears three (♂) or four (♀) bristles from the stigma downwards.

Abdomen.—The abdominal tergites bear each one single row of bristles. The apical bristle of the seventh tergite is long and slender, and is not accompanied by fine hairs on either side. The stigmata are very large and stand just a little above the most ventral bristle of the tergites, but nearer the base. The basal sternite bears a patch of hairs on the side, the hairs being more numerous in the ♀ than in the ♂, and has in addition a ventral bristle. The sternites of segments 3 to 7 bear a row of three or four bristles, before which row stand several hairs on the sternite of the third segment. The pygidial plate is transverse and mesially divided (Pl. VIII. fig. 12).

Legs.—The bristles on the forecoxa are long but not numerous, being situated at or near the anterior edge. The hindcoxa, which is very little longer at the meral suture than it is broad near the base, is covered on the anterior part of the outer surface with slender hairs, and bears posteriorly at the apex two long bristles. The spines on the back of all the femora are long. The forefemur bears a row of hairs on the outerside beginning dorsally at the base and ending ventrally near the apex at a pair of longer bristles, accompanied by some short hairs. On the innerside of the forefemur there are some long hairs at the side and two ventrally near the apex. The mid- and hindfemora bear on the outerside a row of hairs beginning laterally at the base and ending ventrally near the apex. On the innerside the femora bear two ventral subapical bristles. The curved apical spine of the forefemur and the dorsal spines of the foretibia are very stout and blunt. The foretibia bears four pairs of such spines, but one or the other spine is generally absent, or replaced by a hair (Pl. VII. fig. 10). The dorsal bristles of the mid- and hindtibiae are normal in size; the first pair is small, the third minute, and the sixth stands close to the seventh. The tarsal segments 1 to 3 bear, besides the apical bristles, only one or two hairs ventrally at the outerside. The first segment of the mid- and hindtarsi have one or two hairs also on the innerside. The fifth tarsal segment (Pl. VIII. fig. 15) is very large, and its apical third is dilated. The segment bears ventrally at each side four heavy spines from the base to the middle, and on the dilated portion a bristle, a spine, and a subapical bristle. The two subapical ventral spine-like bristles of the fifth segment stand close together and on a level with each other. The claw is not quite so long as the fifth segment, being nearly as long as the foretibia measured at the ventral edge. The proportional length of the mid- and hindtarsal segments is in so far very remarkable, as the first hindtarsal segment is shorter than the second. The longest apical bristle of the first hindtarsal segment reaches to the base of the third spine of the fifth segment. The fourth tarsal segment is separated from the fifth. The measurements of the mid- and hindtarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus, ♂ . .	17	30	20	12	52
„ ♀ . .	22	37	25	15	58
Hindtarsus, ♂ .	33	36	23	13	57
„ ♀ .	35	40	25	16	60

Modified Segments.—The clasper of the ♂ is very large, and bears a large, somewhat diamond-shaped, finger (Pl. VIII. fig. 14). The ninth sternite (ix. st.) is ventrally not completely separated into two halves. It bears at each side two long apical hairs, and at the upper edge several short ones. The tenth tergite is longer than the pygidial plate. It is covered with numerous bristles, of which one (situated laterally at the base) is very long. The tenth sternite is small but quite distinct, and bears a bunch of bristles at the apex. The eighth tergite of the ♀ has no bristles above the stigma, and about seven bristles on the outerside (Pl. VIII. fig. 12), besides numerous shorter bristles on the inner surface. The anterior edge of the pygidial plate is more strongly raised in the ♀ than in the ♂ dorsally in the mesial line, projecting backwards. The anal tergite, in a lateral view, is strongly rounded, being almost semicircular. Its bristles are relatively

short, none of them being essentially longer than the tergite itself. The stylet is subconical, being about three times as long as broad.

Length : ♂, 3·2 mm.; ♀, 4 mm.

We have seven examples of this species, as follows :—

2 ♂♂, Santa Cruz, Brazil, 1897. *Canis griseus.*

5 ♀♀, „ „ „ „ „ „

Collected by Dr. Ihering.

The ♂ referred to by Baker, *l.c.*, as being that of *grossiventris* belongs most probably to this species.

3. **Malacopsylla agenoris** spec. nov. (Pl. VII. fig. 5. 6. 7. 8. 9 ; VIII. fig. 13).

Head.—The head is similar in the two sexes. It is punctured above and is evenly rounded in front, being without a frontal tubercle (Pl. VII. fig. 7). There are two bristles in front of the eye, and two short blunt spines. The ventral edge is rotundate-angulate just behind the maxillae, and then horizontal as far as the antennal groove. The occiput bears an oblique series of bristles behind the insertion of the antenna, three bristles farther back above the antennal groove situated in a triangle, the most ventral one being very long, and moreover some dorsal subapical bristles. The row of fine hairs above the antennal groove does not extend to the point where the antennal groove bends upwards. The first and second segments of the maxillary palpus are nearly the same in length, while the third is shorter and the fourth longer. The rostrum is shorter than the maxillary palpus, reaching barely half-way down the forecoxa when this is perpendicular in position. The end segment of the rostrum is less than half as long again as broad, while the three preceding segments are twice as broad as long.

Thorax.—The pronotum is very short (Pl. VII. fig. 7, pnt.). It bears close to the base a row of bristles, and at the apex a comb of six broad, short, blunt teeth which stand far apart. The meso- and metanotum bear each one row of bristles, the metanotum being shorter than vertically broad (on the slide). The mesonotum bears a row of very thin hair-like spines near the apex. The epimerum of the mesothorax bears one bristle near its upper edge and another farther down at the hinder edge. The epimerum of the metathorax bears three or four bristles from the stigma downwards. It is produced, like the epimerum of the pro- and mesothorax, into a small rounded lobe at the hinder edge (Pl. VII. fig. 5).

Abdomen.—On the abdominal tergites there is one row of bristles. Between the first and second bristles there are two very fine hairs, this being the case also with some of the other bristles, especially on the posterior segments of the ♂. The wide interspace and the presence of two small hairs in one interspace shows that some of the bristles have become obliterated in this species. The apical bristle of the seventh tergite is slender and rather short, not being longer than the ventral one of the seventh tergite. The stigmata are large and stand between the first and second bristles. The pygidial plate is transverse. The anal tergite is nearly semicircular. The stylet of the ♀ is very short, and the anal sternite distinct also in the ♂. The basal sternite bears in the ♂ one or two, in the ♀ four to six, short and thin hairs on the side. The sternites of segments 3 to 6 have two ventral bristles on each side. The sternite of the seventh segment has in the ♂ two bristles, while in the ♀ it is small and triangular, bearing two or three bristles. The abdomen of the ♀ is distended.

Legs. The forecoxa on the outer surface bears about eight bristles, of which four stand on the hinder edge. The hindcoxa is very short, being only as long at the meral suture as it is broad. Along its anterior edge there is a row of fine hairs. There are no bristles posteriorly at the apex of the hindcoxa, or very seldom there is a single one. The hairs at the upper edge of the femora are rather long. There is one single subapical bristle on the outerside, while on the innerside of the mid- and hindfemora there is a series of from five to seven The curved dorsal apical spine of the forefemur (Pl. VII. fig. 9) is long and thick, while the corresponding one of the mid- and hindfemur is much slenderer. The dorsal spine-like bristles of the foretibia (Pl. VII. fig. 9) are less slender than those of the mid- and hindtibiae, but are not at all so much enlarged as in *Malacopsylla andrewsi*. There are no ventral hairs or only one on the mid- and hindtibiae and two or three subdorsally on the outer surface. There are only three pairs of heavy dorsal bristles on the mid- and hindtibiae, besides a short subbasal pair and one or two which are the remnants of two more pairs. The longest apical dorsal bristle of the hindtibia almost reaches to the apex of the second tarsal segment. The tarsi are peculiar in structure, the fourth segment appearing so closely connected with the fifth as to form one piece with it in a ventral view (Pl. VII. fig. 8). In a lateral view the fifth segment is observed to be inserted on the back of the fourth in the middle. That the two segments are employed together as one organ is shown by the fourth segment bearing on each side a large spine corresponding to the spines of the fifth segment. This latter segment is somewhat constricted before the middle and then widened out again ; it bears three pairs of heavy spines, those of the third pair being approximate ; then follow two shorter and much thinner spines on each side ; and there is at the apex, which is produced distad on each side of the claw, a long bristle. The claw is as long as the fifth segment. The heavy bristles of the hindtarsal segments 1, 2 and 3 are very long, the longest of the second segment reaching to the apex of the fifth. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment	Fifth segment.
Midtarsus, ♂ . .	10	12	9	5	26
„ ♀ . .	14	15	9	5*	29
Hindtarsus, ♂ . .	25	21	12	6	26
„ ♀ . .	27	22	12	6	29

Modified Segments.—The clasper of the ♂ bears some long bristles, as shown in the figure (Pl. VIII. fig. 13). The finger (F) is hook-shaped, being curved upwards and bearing a number of short hairs. The manubrium (M) is curved upwards, sickle-shaped, its basal half being narrower than its apical half. The ninth sternite (Pl. VIII. fig. 13. ix. st.) is narrow, slightly curved upwards at the apex, and bears a row of fine hairs near the dorsal edge and two hairs at the apex, the lower one being the longer. The internal plate of the penis is very broad, being elongate-ovate. The eighth tergite of the ♀ has no hairs above the stigma, or only a minute one, and one bristle on the outerside (dotted in the figure). But on the innerside there is a row of rather short and stout bristles (Pl. VII. fig. 6), the most ventral one standing alone and the longest. The eighth sternite bears a patch of short hairs at the apex.

* Measured dorsally.

Length: ♂, 2·08 mm.; ♀, 2·7 mm.

The ♀ of what Baker referred to as *grossicentris* is most probably this species.

According to the description, the four segments of the maxillary palpus of *grossicentris* Weyenbergh are the same in length, the first being a little longer than the others. The fifth tarsal segment has only one pair of spine-like bristles. The thoracical and abdominal tergites bear each only one pair of bristles. The abdomen of the ♀ has no hairs at the apex, and the legs of the same sex have no heavy bristles.

Weyenbergh calls the coxa trochanter, and the real trochanter femur.

We have thirty-three examples of this species, as follows:—

5 ♂♂, Cruz del Eje, Argentine, November 1901. *Dasypus.* P. O. Simons.
7 ♀♀, „ „ „ „ „
1 ♂, Patagonia.
3 ♀♀, „
2 ♂♂, Rio Santa Cruz, Patagonia. *Dasypus minutus.* Dr. Berg.
4 ♀♀, „ „ „ „ „
2 ♂♂, Pamba Central. *Chactaphractus minutus.* „
3 ♀♀, „ „ „ „ „
2 ♂♂, Rio Negro, N. Patagonia. *Chactaphractus minutus.* „
4 ♀♀, „ „ „ „ „

4. **Pulex creusae** spec. nov. (Pl. VIII. fig. 18; IX. fig. 25).

Head.—The head is strongly rounded in front in both sexes, more strongly in the ♂ than in the ♀, and is covered on the dorsal surface with numerous pale dots, each bearing an extremely short hair. In the ♂ the occiput is horizontal above and hollowed out in the middle line, this depression bearing short hairs. The interspace between the most ventral and the second bristle of the apical row of the occiput is twice as wide as that between the second and third bristles. The second segment of the maxillary palpus is a little longer than the third and fourth together, and the third segment is only half the length of the fourth, being only half as long again as broad. The last segment of the rostrum is little longer than the two preceding ones together, being nearly three times as long as the last but one.

Thorax.—The bristles of the thorax and abdomen are thin, but rather long. The epimerum of the mesothorax bears three rather short and stout bristles, one in front and two behind, and a longer bristle above the stigma. The metathoracical epimerum bears a series of four or five at the hinder edge and a single one towards the base and on a level with the most ventral bristle of the apical row.

Abdomen.—The thoracical and abdominal tergites bear each a single row of bristles, the most ventral bristle being the longest. The seventh tergite bears in addition a stout apical bristle, accompanied on each side by a very short hair, this apical bristle being shorter than the most ventral bristle of the postmedian series. The diameter of the stigma of each tergite is less than twice the length of the diameter of the groove in which the ventral bristle of the tergite is inserted. The stigma stands on a level with or above the second bristle, or, if this bristle is not developed, half way between the first and next, but much nearer the base of the segment. In the ♂ the second and third bristles are apparently always absent. The sternite of the second abdominal segment bears one bristle on each side, the four following sternites three or four bristles with a small hair in front, and the sternite

of the seventh segment bears six or seven, which are mostly ventral, the uppermost standing quite isolated.

Legs.—The coxae are long. There are very few bristles on the outer surface of the forecoxa, apart from a row of four which extends obliquely from the apex to the hinder edge. The hindcoxa has an irregular comb of four to six spines, and bears three stout bristles posteriorly at the apex, the uppermost being the longest. The anterior femur bears in the ♀ on the onterside an irregular series of four hairs, and on the innerside two hairs : in the ♂ two hairs on the outerside and one on the inner, besides a ventral subapical bristle on each side in both sexes. The hindfemur has on the outerside two subapical ventral bristles, one in front of the other, and on the innerside a row of five or six in the ♂ and of seven or eight in the ♀. The tibiae bear on each side only two short hairs near the ventral edge, one standing near the apex and the other in or near the middle, one or the other of which may be missing. The hindtibia has one row of hairs on the onterside near the dorsal bristles. The longer bristle of the fifth pair of the hindtibia is twice as long as the tibia is broad, being longer than the longest dorsal apical bristle. This apical bristle reaches just beyond the middle of the first tarsal segment in the ♀, being a little longer in the ♂, while the longest apical ventral bristle reaches in both sexes to the apex of the segment. The fourth tarsal segment is very short and cup-shaped. The first hindtarsal segment is more than half as long again as the fifth, excluding claw.

The measurements of the tarsi are :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus, ♂ . .	7	8	7	5	17
„ ♀ . .	7	9	8	5	18
Midtarsus, ♂ . .	10	14	9	6	15
„ ♀ . .	14	16	10	7	18
Hindtarsus, ♂ . .	24	15	8	6	15
„ ♀ . .	31	18	10	7	18

The third stout bristle of the two ventral rows of the fifth segment are approximate. The shorter bristle of the subapical mesial ventral pair of the same segment is much more proximal than the longer one.

Modified Segments.—The sexual apparatus of the ♂ (Pl. VIII. fig. 18) resembles that of *Pulex isidis*; the second process of the clasper is, however, longer than in that species, and the ninth sternite is more curved and bears a number of very short hairs along the ventral edge.

The bristles on the eighth tergite of the ♀ are rather short and partly stout ; their position is shown in the figure (Pl. IX. fig. 25).

Length : ♂, 1·9 mm. ; ♀, 2·4 mm.

We have sixty-three specimens of this species collected by Mr. C. J. B. Grant, as follows :—

2 ♂♂, Deelfontein, Cape Colony, March 14th, 1902. *Felis caracal.*
4 ♀♀, „ „ „ „ „ „ „ „
1 ♂, „ „ „ May 1902. *Spreo bicolor.*
6 ♂♂, „ „ „ April 1st, 1902. *Procavia capensis.*
50 ♀♀, „ „ „ „ „ „ „

This species can be distinguished from *Pulex isidis* by the hindcoxa bearing

three instead of two bristles posteriorly at the apex, by the second and third bristles of the abdominal tergites being obliterated in the ♂ (the second sometimes also in the ♀), and by the slight differences in the last abdominal segments.

5. **Pulex erilli** spec. nov. (Pl. VIII. fig. 16. 17 ; IX. fig. 22).

This species is allied to *Pulex creusae*.

Head.—The rostrum reaches in both sexes beyond the trochanter. The first of the four segments of the labial palpus is nearly as long as the fourth, being half as long again as the intermediate ones. The maxillary palpus is also longer than in *Pulex creusae*.

Thorax.—The epimerum of the metathorax bears two rows of bristles, the anterior row consisting of two in the ♂ and of three or four in the ♀, the posterior row of four in the ♂ and five in the ♀.

Abdomen.—The first abdominal tergite bears two long bristles in front of the postmedian row. The apical bristle of the seventh tergite is longer and slenderer than in *Pulex creusae*. The abdominal sternites of segments 3 to 7 bear in the ♂ two bristles on each side, and in the ♀ three or four.

Legs.—The mid- and hindcoxae have posteriorly at the apex two bristles. The comb of spines on the innerside of the hindcoxa is more regular, and does not stand so close to the apex, the last spine of the comb standing rather nearer the middle than the apex of the coxa.

All the femora have on the outerside one subapical ventral bristle. The hind-femur bears on the innerside a row of five bristles.

The mid- and hindtibiae bear one pair of dorsal bristles less than *P. creusae*, the third pair being absent or replaced by a small hair, and the sixth pair being moreover much reduced in size. The longest apical ventral bristle of the second hindtarsal segment reaches to the apex of the fifth. The fifth tarsal segment and the claw are slenderer than in *P. creusae*. The measurements of the tarsi are as follows :—

	First segment.	Second segment	Third segment.	Fourth segment.	Fifth segment.
Midtarsus, ♂ . .	10	16	9	6	15
„ ♀ . .	11	19	10	7	18
Hindtarsus, ♂ . .	30	20	13	8	20
„ ♀ . .	35	23	13	8	20

Modified Segments.—The movable process r of the clasper (Pl. VIII. fig. 16) is slenderer than in *P. creusae*, and the ninth sternite is less curved (Pl. VIII. fig. 17). The eighth sternite of the ♂ bears an irregular horizontal row of three bristles from the middle to near the apex, there being a row of four in *P. creusae*, with an additional bristle above the third.

The eighth tergite of the ♀ (Pl. IX. fig. 22) bears a row of seven or eight bristles, and two more bristles on the outer surface. The stylet is conical and three times as long as basally broad, being much slenderer than in *P. creusae*.

Length : ♂, 1·7 mm. ; ♀, 2·02 mm.

We have forty-four specimens of this species, collected by Mr. C. J. B. Grant, as follows :—

1 ♂, Deelfontein, Cape Colony, August 26th, 1902. *Zorilla striata.*
3 ♂♂, „ „ „ April 19th, 1902. *Xerus capensis.*
13 ♀♀, „ „ „ „ „ „ „ „
15 ♂♂, „ „ „ „ 26th, „ *Loricata tetradactyla.*
12 ♀♀, „ „ „ „ „ „ „ „

6. **Pulex eridos** spec. nov. (Pl. VIII. fig. 21 ; IX. fig. 23).

This species is close to *P. nubicus*, having the hindfemur strongly angulate near the base.

Thorax.—The epimerum of the metathorax bears only nine to eleven bristles, arranged in two vertical rows converging towards the stigma.

Abdomen.—The number of bristles on the abdominal tergites is also smaller than in *P. nubicus*, the rows containing about eight bristles on the middle segments. On the sternites of segments 3 to 6 there are three or four bristles on each side.

Legs.—The ventral subbasal tooth of the hindfemur is more prominent than in *P. nubicus*.

Modified Segments.—The clasper of the ♂ bears two processes, of which the one is half as long again as the other, the shorter one bearing a number of moderately long hairs (Pl. VIII. fig. 21), and the longer one some minute hairs. The ninth sternite is larger than in *P. nubicus*. The manubrium (M) is not quite so slender at the base, and distinctly curved. The bristles on the eighth sternite are fewer in number and less heavy than in *P. nubicus*. The penis plate is acuminate.

The eighth tergite of the ♀ bears an apical row of ten bristles, and on the lateral surface two or three long ones beneath the stigma, and some more farther down, the number not being quite constant (Pl. IX. fig. 23).

Length, 1·6 mm.

We have eleven examples of this species, as under :—
7 ♂♂, Deelfontein, Cape Colony, March 19th, 1902. *Otomys brantii.*
4 ♀♀, „ „ „ „ „ „ „ „
Collected by Mr. C. J. B. Grant.

7. **Pulex riggenbachi** spec. nov. (Pl. VIII. fig. 19, 20 ; IX. fig. 24).

Head.—The dorsal edge of the hinder part is horizontal and slightly curved in the ♂, while in the ♀ the head is rounded from the hinder edge to the palpi. The upper surface bears numerous very short hairs, which are more distinct on the hinder portion in the ♂. There are no long bristles on the anterior part of the head. On the hinder part there is one long bristle above the antennal groove, with a smaller one in front, and a series of bristles near the hinder edge. Of this series the lowest is the longest, and its distance from the next is about the same as from the long lateral bristle. The club of the antenna is about as long as broad. The oval edge of the head is produced on each side into a narrow, triangular, pointed process, which projects downwards and backwards. The second segment of the maxillary palpus is not quite so long as segments 3 and 4 together ; segment 3 is one-fourth shorter than 4.

Thorax.—The bristles of the thorax are short and stout, the dorsal ones being

longer and thinner than the lateral ones. The thoracical segments bear one row each. The epimerum of the mesothorax bears five bristles, one being situated in front and four behind. The epimerum of the metathorax bears two rows of bristles, the first row consisting of four to seven, and the second of six to eight. The three lowest bristles of the second row stand closer together than the others.

Abdomen.—There is one row of bristles on the abdominal tergites, the first tergite bearing some hairs in addition. The stigma is very large, and stands in the ♂ above the first bristle, in the ♀ above the second, except segments 2 and 7, where the stigma is situated as in the ♂. The seventh abdominal tergite bears one long apical bristle accompanied by two very short ones. The sternites of segments 2 to 6 bear in the ♂ one bristle, which is sometimes absent from the first two sternites. On the sternites of segments 5 and 6 there is one short stout bristle more than halfway up to the tergites. On the sternite of the seventh segment there is a third bristle in between. In the ♀ the first two sternites have one or no bristle, while the others have from four to seven.

Legs.—The hairs of the forecoxa are short except those at the hinder edge. There is a comb of six or nine spine-like bristles on the hindcoxa, and at the apex on the hinder side of the same coxa there are three stout bristles. The hindfemur is ventrally almost evenly rounded from base to apex, being more convex ventrally than dorsally. There is a subventral row of bristles on the outer surface of the hindfemur, and a sublateral row on the inner surface. All the tibiae have a few hairs at the ventral edge, and the interspace between the short subapical pair of dorsal bristles and the preceding one is very wide. The dorsal bristles of the hindtibia are short and rather slender. Of the seven pairs the third is minute, and the first and sixth are much shorter than the tibia is broad. The longest apical dorsal bristle reaches to the tip of the first tarsal segment. There is one row of hairs on the outerside of the hindtibia, besides the ventral hairs. The tarsi are very slender; the fourth segment is short and cup-shaped. The longest apical bristle of the second hindtarsal segment reaches beyond the middle of the fifth. The measurements of the tarsi are:—

	First segment	Second segment.	Third segment	Fourth segment.	Fifth segment.
Foretarsus . .	15	20	17—20	11	32
Midtarsus . .	35	40	23—25	14	35
Hindtarsus . .	80—82	50—55	30	16	35

Modified Segments.—The clasping organs of the ♂ somewhat resemble those of *Pulex irritans*. There are three processes (Pl. VIII. fig. 19), the uppermost being the longest and the ventral one the broadest. The ninth sternite (Pl. VIII. fig. 20) is beset with very small bristles at and near the apex.

The eighth tergite of the ♀ (Pl. IX. fig. 24) bears a row of bristles near the edge and two short bristles on the side. The stigma is large. The segment is completely divided on the back.

Length: ♂, 4·2 mm.; ♀, 5·2 mm.

We have the following examples of this species: 10 ♂♂ and 8 ♀♀, Mazagan, Morocco, September 24th, 1900, on *Hystrix cristata*, collected by Mr. W. Riggenbach; and 4 ♂♂ and 16 ♀♀ from Deelfontein, Cape Colony, July 14th, 1902, collected by Mr. C. J. B. Grant on the same host. Type from Deelfontein.

This species is named in honour of Mr. W. Riggenbach.

8. **Pulex australis** spec. nov. (Pl. IX. fig. 29; X. fig. 34, 36).

Head.—The anterior part of the head, which is more strongly rounded in the ♂ than in the ♀, is covered with minute hairs, and bears a row of four bristles between the antennal groove and the maxillary palpi, and a row of three longer ones before the eye. On the posterior part of the head, which is longer in the ♂ than in the ♀, there are three rows of bristles, besides a number of smaller hairs, situated in front on the back, these small ones being especially numerous and prominent in the ♂. The bristles of the last or subapical row are nearly equidistant from one another (Pl. X. fig. 34). Above the antennal groove there is a row of about twenty-five short spine-like hairs standing close together, the posterior ones being much larger than the anterior ones (Pl. X. fig. 34). The maxillary palpus is as long as the rostrum, the first segment being a little longer than the third, the second half as long again as the third and a little shorter than the fourth. The labial palpus consists of five segments, the second, third, and fourth being nearly equal in length, and the fifth nearly twice as long.

Thorax.—The pro- and mesonotum bear each two rows of bristles, the anterior row of the pronotum not extending halfway down the sides. The epimerum of the mesothorax bears three bristles, two in front and one above the stigma. The metanotum bears three rows of bristles, besides some hairs near the base on the back, and is armed at the edge with ten to fifteen very short teeth. The epimerum of the metathorax bears two rows of bristles—namely, a row of five at the hinder edge from the stigma downwards and a row of six halfway towards the base, the uppermost bristle being on a level with the stigma or a little more dorsal.

Abdomen.—The first abdominal tergite bears two rows of bristles, the anterior bristles being short. On the other tergites there is one row of bristles, besides a few hairs on the back, representing the second series. The first tergite has a comb similar to that of the metanotum, while tergite 2 bears only two teeth on each side on the back, the following four tergites one or no tooth. The seventh tergite bears a stout apical bristle on each side, which is less than twice the length of the most ventral bristle of the same tergite, and which is accompanied dorsally by a very short hair. The stigma stands in between the first and second bristle, or on a level with the second. Its diameter is less than three times the length of the diameter of the groove of the ventral bristle of the tergite. The abdominal sternites have a regular row of bristles. On the first sternite the row is lateral, the bristles being short, and there is another row of three or four in front of it.

Legs.—The hindcoxa is as broad as it is long at the meral suture, which separates the coxa into a posterior and an anterior portion. There are three bristles posteriorly at the apex, the ventral one being the shortest, and a regular row anteriorly at the edge. There is no comb on the coxa. Besides the hairs near the anterior edge of the hindcoxa, there is on the outer surface before the middle a downward row of four or five bristles. The anterior femur bears on the outerside numerous short hairs. The mid- and hindfemora bear on the outerside two rows of hairs, one subventral and the other lateral, this being irregular and more or less incomplete. On the innerside there is a regular series of from six to eight bristles. The tibiae have a number of hairs along the ventral edge. On the mid- and hindtibiae there are on the outerside, besides those ventral hairs, a row of ten from the base to the apex, and two more hairs which are situated between the fourth and seventh pair of dorsal bristles, being more dorsal in position than

the hairs of the lateral row. The fifth pair of dorsal bristles of these tibiae is represented by a minute hair. The longest dorsal apical bristle of the hindtibia does not quite reach to apex of the first tarsal segment, while the longest ventral bristle reaches a little beyond. The first and third segments of the foretarsus are practically equal in length, while the second is somewhat longer, the fifth (exclusive of claw) being nearly as long as the first three together. The proportional length of the mid- and hindtarsal segments are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus, ♂ . .	11	18	11	7	24
„ ♀ . .	13	21	15	8	30
Hindtarsus, ♂ . .	40	28	18	10	30
„ ♀ . .	45	31	19	11	32

The longest apical bristle of the second hindtarsal segment reaches beyond the apex of the fourth, and the longest apical bristle of the fourth segment extends beyond the middle of the fifth.

Modified Segments.—The clasper is broad, and bears at the apex two stout spine-like bristles, besides numerous thinner hairs as shown in the figure (Pl. X. fig. 36, Cl.). The finger (F) is almost cylindrical in outline, rounded at apex, and bears a number of very short and thin hairs along the edge. The ninth sternite (Pl. X. fig. 36, IX. st.) is gradually narrowed to the apex, being pointed, and bears a number of hairs, of which one near the apex is the longest.

The eighth tergite of the ♀ (Pl. IX. fig. 29) bears a regular row of bristles of unequal length from the stigma downwards, a few bristles above the stigma, and a series of bristles along the apical edge. Of this series four bristles, which stand close together, are longer and stouter. On the innerside of the eighth tergite there are a number of hairs near the apex standing in a more or less irregular row, being (on the slide) proximal in position to the external hairs. The stylet of the anal segment is cylindrical, being three times as long as broad.

Length : ♂, 2 mm. ; ♀, 2·06 mm.

We have twenty-three examples of this species, as follows :—

3 ♂♂, Santa Andrea, Tabasco, May 30th, 1897. *Dicotyles labiatus.*

13 ♀♀, „ „ „ „ „ „ „ „

2 ♂♂, Perene. *Tatusia novemcincta.* P. O. Simons.

2 ♂♂, Charuplaya, Bolivia, June 27th, 1901 (P. O. Simons). *Speothos venaticus.*

1 ♀, „ „ „ „ „ „ „ „ „

2 ♂♂, Minas Geraës. A. Kennedy.

This species comes close to *Pulex bohlsi* Wagn. and *Pulex lutzi* Baker ; the former has two complete series of bristles on the abdominal tergites, and in *Pulex lutzi* the third segment of the maxillary palpus is longer than the first, and the second longer than the fourth. The sexual armature of the ♂♂ is also different in the three insects.

9. **Pulex cleophontis** spec. nov. (Pl. X. fig. 32).

This species is closely allied to *Pulex australis*, and may possibly be only a geographical form of it.

Head.—It bears a row of three bristles between the eye and palpi, but no second row above it.

Thorax.—The metanotum bears three rows of bristles, and no additional bristles as in *Pulex australis*.

Legs.—The first segment of the midtarsus is three-fifths the length of the second. The second segment of the hindtarsus is four-fifths the length of the first.

Modified Segments.—The ninth tergite of the ♂ bears three stout spine-like bristles instead of two. The ninth sternite of the ♂ is much larger, and bears more bristles (Pl. X fig. 32).

Length: ♂, 2·7 mm.; ♀, 3·7 mm.

We have twenty-seven examples of this, as follows:

2 ♂♂, Southern part of Buenos Aires. *Maletia septemcincta*. Dr. Berg.
5 ♀♀, „ „ „ „ „ „ „
4 ♂♂, Minas Geraës. A. Kennedy.
14 ♀♀, „ „ „ „
1 ♂, Sapucay, Paraguay. Agnti. W. Foster.

10. **Pulex concitus** spec. nov. (Pl. X. fig. 38, 40).

♀. This species comes also close to *Pulex australis*, but is much smaller, and the bristles of the body and legs are less heavy.

Head.—The maxillary palpus is much shorter than the rostrum; the second segment equals the fourth segment, while the third is about one-third longer. The rostrum reaches to the apex of the forecoxa, being much longer than in *Pulex australis*. The last (fifth) segment of the labial palpi composing the rostrum is half as long again as the fourth, while the third segment is much shorter than the fourth, being about one-third the length of the fifth and equal in length with the second. There are two bristles beneath the eye near the ventral edge of the head.

Thorax.—The anterior row of hairs on the pronotum extends farther down than in *Pulex australis*. On the metanotum there are three rows of hairs as in that species, but no additional hairs on the back. The metanotum bears a comb of very short teeth at the apex, the number of teeth being eleven and eight in our two specimens. The epimerum of the metathorax has two vertical rows of bristles, the numbers being in one specimen four and four, and in the other four and three.

Abdomen.—The abdominal tergites bear each two rows of bristles, the first row being complete like the second, its most ventral bristle standing below the stigma on nearly all the tergites. The first tergite has a comb of thirteen teeth in one specimen and seven in the other, while the second and third tergites bear four teeth each in one specimen and three respectively one in the other specimen. The long apical bristle of the seventh tergite is not accompanied by a fine hair on either side. The triangular projection of the apical margin between the long apical bristles is much more obtuse than in *Pulex australis*. The sternite of the second segment (basal sternite) bears a patch of thin hairs on the side, and three or four longer ventral hairs. On the next sternite there is a row of five or six bristles, with a few short hairs in front. The sternites 4 to 6 bear a row of four to six bristles while the seventh has a curved row of six or seven and some short hairs in front the uppermost bristle being long.

Legs.—The hindcoxa is longer at the meral suture than it is broad, being

longer than in *Pulex australis*. There are two bristles dorsally at the apex of the hindcoxa.

The mid- and hindfemora have on each side one row of bristles.

The fifth tarsal segment is shorter and broader than in *Pulex australis* (Pl. X. fig. 40). The measurements of the mid- and hindtarsal segments are :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	12	15	8	6	17
Hindtarsus . . .	30	19	11	7	19

Modified Segments.—The eighth tergite is similar to that of *Pulex australis*; the bristles are not so heavy, and are somewhat different in arrangement (Pl. X. fig. 38). The edge of the pygidial plate is, anteriorly in the mesial line, produced into a process which projects backwards a short way over the base of the plate in *Pulex australis*, while in the present species there is no such process.

The stylet is about half as long again as broad, being much shorter than in *Pulex australis*.

Length : ♀, 1·7 mm.; ♀,* 2·6 mm.

We have 3 ♀♀ of this species. Lucre, Bolivia, September 6th, 1901, from *Heradon boliviensis*, collected by Mr. P. O. Simons.

11. **Pulex simonsi** spec. nov. (Pl. IX. fig. 30 : X. fig. 37).

A pale species.

Head.—The occiput is more than twice as long as the frons (measured along the side) in the ♂, while the occiput and frons are nearly the same length in the ♀. There are five (♂) or four (♀) bristles along the oral edge, of which the anterior one is very long, and three (♂) or two (♀) more in front of the eye. The occiput bears only one series of bristles situated near the apex, and in the ♂ a number of short hairs in the dorsal depression. The row of short hairs above the antennal groove extends to the insertion of the antenna. These hairs are thin, and the anterior ones in the ♂, or all in the ♀, are rather far apart. The first and second segments of the maxillary palpus are of the same length and one-fourth longer than the third, while the fourth segment is as long as the second and third together. The labial palpus consists of five segments, the last reaching to the end of the forecoxa and being about as long as the two preceding segments together.

Thorax.—The pro-, meso-, and metanotum bear each two rows of bristles, but the anterior row of shorter ones contains only a small number of bristles. The mesonotum bears in addition a row of very fine and long hair-like spines before the apex. The epimerum of the mesothorax bears four long bristles, two standing before the middle—namely, one above and one below, and two near the stigma. The metathoracical epimerum bears two or three bristles (♂) or four (♀) from the stigma downwards.

Abdomen.—The abdominal tergites bear each one row of bristles. On the first three tergites there are moreover some short bristles representing the median row. The stigma stands above the ventral bristle, its diameter being twice the length of the diameter of the groove of the ventral bristle. The seventh tergite has on each side one stout apical bristle. The basal sternite bears on each side one

* In this specimen the segments are extended.

ventral bristle, and three or four minute hairs on the lateral surface in the ♂, while in the ♀ the lateral hairs are very numerous. The sternites of segments 3 to 7 bear on each side two or three bristles in the ♂, in the ♀ there being a few more bristles on segments 5 to 7. The eighth sternite, which is sinuate at the apex in the ♂, bears on each side of the sinus three stout bristles.

Legs.—The mid- and hindcoxae are rather long, and bear posteriorly at the apex two bristles. There is no comb on the hindcoxa. The hindfemur bears on each side a regular row of nine or ten hairs in the ♂, the bristles being more numerous in the ♀. All the tibiae are provided with some hairs at the ventral edge. The mid- and hindtibiae have one row of bristles on the outer surface. The dorsal bristles of the tibiae are very long. The long dorsal apical bristle of the foretibia is very much prolonged; that of the fifth pair of the hindtibiae is nearly as long as the tibia, and much longer than the longest dorsal apical bristle, which does not extend to the apex of the first tarsal segment. The tarsi are slender. The second foretarsal segment is a little longer than the foretibia is broad. The hindtarsal segments 1 to 4 bear at least one very long apical bristle, that of the first segment reaching to the base of the fifth. The claw is slender and the basal lobe rather long. The description of the tibiae and tarsi refers only to the ♂, as these parts are not preserved in our only ♀. The measurements of the tarsi are:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus . .	11	11	8	6	16
Midtarsus . .	19	16	10	7	16
Hindtarsus . .	41	24	12	9	18

Modified Segments.—The clasper of the ♂ (Pl. X. fig. 37), which bears at the distal edge a regular series of bristles, is produced ventrally into a slender process bearing long bristles at the apex (fig. 37, p^2). The manubrium (M) is very broad and curved upwards at the end. The finger (F) is narrow and pointed, being somewhat dilated before the apex. The ninth sternite (fig. 37, ix. st.) is very peculiar. It is broad and truncate at the apex, with the acuminate ventral corner pointing downwards, and bears three brushes of hairs as shown in the figure.

For position of hairs on the eighth tergite of the ♀ see Pl. IX. fig. 30. The stylet is cylindrical, being a little more than twice as long as broad. The bristles on the anal sternite are very numerous.

Length: ♂, 2·1 mm.; ♀, 3·3 mm.

We have four examples of this species collected by Mr. P. O. Simons:—

2 ♂♂, Challapata, Bolivia, October 11th, 1901. *Neoctodon simonsi.*

1 ♀, " " " " " " "

1 ♂, Potosi, Bolivia, September 26th, 1901. *Abodon albirenter.*

12. **Pulex cocyti** spec. nov. (Pl. IX. fig. 26; X. fig. 31).

This is a small and very pale species.

Head.—The head is nearly evenly rounded in the ♀, while in the ♂ the dorsal line of the occiput is nearly horizontal. The occiput is two and a half times as long again as the frons in the ♂. There is a row of three bristles in front of the eye. The occiput bears a regular series of long and short hairs, the most

ventral one being the longest. The interspace between this bristle and the next long one is a little wider than the interspace between the second and third. Above the antennal groove there are two or three more hairs, but there are no further hairs on the sides. In the ♂ the dorsal depression of the occiput is covered with numerous very fine hairs. Above the antennal groove there is a regular row of short and fine spine-like hairs which stand close together. This row extends in the ♂ nearly to the groove in which the antenna is inserted, while in the ♀ the row is much shorter, being restricted to the hinder third of the occiput. The second segment of the maxillary palpus is twice as long as the third and one-third shorter than the fourth. The labial palpus consists of five segments, the second and third being the shortest.

Thorax.—The pronotum bears one row of short bristles and some additional ones on the back. Between the row of long bristles of the mesonotum and the hinder edge there is a row of about nine long and very thin hair-like spines. The epimerum of the mesothorax bears four bristles, two in the middle and two behind. The metanotum bears a row of long bristles, and an abbreviated row of shorter ones in front of it, and some additional hairs on the back. The epimerum of the metathorax bears two or three hairs in front and two or three from the stigma downwards, the uppermost anterior bristle being on a level with the stigma.

Abdomen.—The abdominal tergites bear each one row of long bristles, with a rather long thin hair between each two, as on the thoracic tergites. In the ♀ there is on all tergites an additional row of shorter ones, which extends only half-way down the sides. In the ♂ this additional row is present on the first tergite. The seventh tergite bears a long apical bristle on each side, accompanied by a very short hair. The stigmata of the abdomen are more proximal and more dorsal in the ♀ than in the ♂, standing above the first bristle in the ♂ and on a level with or above the second in the ♀ on segments 3 to 7. The basal sternite bears only one minute ventral hair. The other sternites bear in the ♂ two or three, in the ♀ three or four, seldom five, on each side.

Legs.—The hairs on the forecoxa are not numerous. The mid- and hindcoxae have posteriorly at the apex two bristles, the upper one being the longer. There is no comb on the hindcoxa. The hindfemur bears on the outerside one subventral bristle near the apex, and one or two lateral ones near the base, and on the innerside a series of eight or nine. The tibiae have hairs on the ventral side, and on the outer side one row of bristles. At the dorsal edge the tibiae bear seven pairs of bristles, those of the sixth pair being about the same size as those of the third. The long apical dorsal bristle of the foretibia reaches beyond the second tarsal segment, while the corresponding bristle of the hindtibia reaches to the base of the second segment. The longer bristle of the fifth pair of the hindtibia is about three times as long as the tibia is broad in the middle. The measurement of the tarsal segments are :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus, ♂ . .	6	7	6	5	12
„ ♀ . .	7	8	7	6	16
Midtarsus, ♂ . .	11	12	10	6	14
„ ♀ . .	13	15	11	7	17
Hindtarsus, ♂ . .	25	17	12	7	15
„ ♀ . .	25	17	13	7	17

The longest apical bristle of the first hindtarsal segment reaches nearly to the middle of the third segment, and that of the second segment almost to the apex of the fourth.

Modified Segments.—The clasper of the ♂ (Pl. X. fig. 31, Cl.) is large, and bears numerous hairs along the edge. The finger (F) is very small. The ninth sternite is slightly dilated before the middle, obtuse at the apex, and bears a number of hairs along the ventral edge (ix. st.).

The eighth tergite of the ♀ (Pl. IX. fig. 26) has a few hairs above the stigma, about eight to ten lateral ones farther down, and a row of short and rather stout ones at the apex, there being on the innerside of the segment a dense apical patch of hairs.

Length : ♂, 1·5 mm. ; ♀, 1·9 mm.

We have thirteen examples of this insect :—

5 ♂♂, Coast Hills, Chile. Burrowing Rat. Mr. J. A. Wolffsohn.
6 ♀♀, „ „ „ „ „ „ „
2 ♂♂, Valparaiso, „ „ „

13. **Pulex corfidii** spec. nov. (Pl. IX. fig. 27 ; X. fig. 33).

♀. **Head.**—The front of the head bears a pointed tubercule directed backwards and projecting from a groove (Pl. X. fig. 33). There is a row of three bristles in front of the eye, the upper one standing at the antennal groove and the lower one behind the maxillary palpus. In between these bristles there are two shorter ones. Above the eye there is a number of short hairs. The genal edge bears a series of eight or nine bristles (which are nearly all broken off in my single specimen). On the hinder part of the head there are a number of bristles along the antennal groove, and a complete subapical series of eight. The short hairs above the antennal groove stand in an almost regular row, but are not numerous. The head is punctured from the eye-bristles upwards (Pl. X. fig. 33). The rostrum is much shorter than the forecoxa. The labial palpus consists of four segments only, the fourth segment being as long as the two preceding ones together.

Thorax.—The prothorax bears two rows of bristles, and one or two bristles in front of them on the back. There is also a hair-like subapical dorsal spine on each side. The mesonotum bears three rows of bristles and a subapical series of five hair-like spines. On the metanotum there are two rows of bristles. The epimerum of the mesonotum bears four bristles. The metathoracical epimerum bears twelve bristles in two vertical slightly curved rows (7.5) and three short hairs behind the second row ; the third bristle of the first row is nearer the base than the others.

Abdomen.—The abdominal tergites have two rows of bristles, the first tergite bearing two or three additional bristles on the back. The bristles in each row are very numerous, there being as many as thirteen or fourteen in the second row on each side on the middle segments. The first tergite bears an apical comb of fifteen spines on the two sides together. On the second tergite there are five spines, and on the third two. There is one long apical bristle on the seventh tergite. The stigma is small, and stands just in front of the anterior row of bristles and above the third bristle of the second row on the middle segments. The first abdominal sternite bears several hairs at the ventral edge, and a curved row on the sides, with a number of additional hairs in front of this row. The sternites

of segments 4 to 7 bear a row of seven or eight bristles, and five to seven hairs in front, the numbers being rather larger on the sternite of the third segment.

Legs.—The mid- and hindcoxae bear two bristles posteriorly at the apex. The anterior femur bears about fifteen hairs on the outer surface and three bristles ventrally before the apex, there being on the innerside a row of four or five from the apex forward. The mid- and hindfemora are also hairy on the outer surface, and bear a subventral row of hairs on the innerside. The last four or five ventral bristles on the outerside of the hindfemur are long and stand in a regular row. The bristles at and near the ventral edge of the mid- and hindtibiae are numerous, and there are two rows of bristles on the outer surface, besides some additional lateral bristles from the fifth dorsal pair to the apex. The third dorsal pair is represented by a fine hair. The longest apical bristle of the midtibia reaches beyond the apex of the first tarsal segment. The longest bristle of the second hindtarsal segment reaches beyond the apex of the fourth segment. The hairs on the back of the third tarsal segment are numerous. The fifth tarsal segment bears on each side three rather slender bristles, the third pair being somewhat approximate, and there is a fourth short bristle halfway towards the apex. The measurements of the tarsi are as follows:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	22	18	11	8	18
Hindtarsus . . .	39	21	14	9	18

Modified Segments.—The eighth tergite bears a number of bristles above the stigma, and a regular series from the stigma downwards, there being in front of this series an irregular row of shorter ones, as shown in Pl. IX. fig. 27. Near the apical edge there is a row of about fourteen bristles, while on the inner surface near the apex there are two rows of short ones. The stylet is subcylindrical, being about three times as long as broad.

Length: ♀, 2·02 mm.

This species comes near to *bohlsi* and *lutzi*, but can easily be distinguished by the short rostrum, the frontal tubercle, and the row ofbristles along the genal edge of the head.

We have of this species one ♀, Valparaiso (Chile), from *Octodon digus*, collected by Mr. J. A. Wolffsohn.

14 **Pulex klagesi** spec. nov. (Pl. IX. fig. 28; X. fig. 35. 39).

Head. The anterior part of the head bears a row of three long bristles before the eye, and another row of five shorter ones between the maxillary palpus and the antennal groove, besides one very long bristle below the eye and a second behind the eye. On the posterior part of the head there are three rows of stout bristles. The first segment of the maxillary palpus is hardly longer than the third, while the second is as long as the third and fourth together. The rostrum does not quite reach to the end of the forecoxa; its last segment is about twice the length of the third.

Thorax.—The three thoracical tergites bear each a postmedian row of bristles, which are heavy but not long, and an antemedian row of short ones, there being on

the metathorax a third, anterior, row in addition. The epimerum of the mesothorax bears three bristles, one near the upper and two near the ventral edge. On the epimerum of the metathorax there are two vertical rows of bristles, the first row situated before the middle containing four or five bristles, and the second row extending from the stigma downwards containing four.

Abdomen.—The abdominal tergites bear each two rows of bristles in the ♀, the anterior row being incomplete on the middle segments, while in the ♂ the anterior row is present only on the first segment. At the apical edge of the first segment there are three very short teeth on each side, while the following four segments bear one or two teeth. The stigma stands a very little below the second bristle, its diameter not being quite twice the length of the groove of this bristle. The seventh tergite bears one stout apical bristle on each side. The first abdominal sternite of the ♀ bears a lateral row of short hairs, with another row of three or four in front of it, besides some ventral hairs. In the ♂ these ventral ones are present, but the lateral rows are represented only by one or two very tiny hairs. The sternites 3 to 7 bear on each side a row of three bristles in the ♂ and four or five in the ♀.

Legs.—The bristles of the forecoxa are numerous and stout. The hindcoxa is devoid of a comb. There are three bristles of about the same length posteriorly at the apex of the hindcoxa. The hindfemur bears on the outerside five hairs, of which the two last are longest, there being on the innerside three short hairs, one near the base, the second in the middle, and the third near the apex. The tibiae have several hairs at the ventral edge, and bear on the outerside two rows of longer and stouter ones. There are six pairs of dorsal bristles on the hindtibia, besides a very stout hair before the third and sixth pairs. The longest apical dorsal bristle does not reach to the apex of the hindtarsal segment, while the longest apical ventral bristle reaches beyond that segment. Above the ventral apical pair of bristles of the hindtibia there is another pair, of which the longer bristle is longer than the tibia is broad. The fifth tarsal segment bears three heavy bristles on each side, upon which follow a fine hair, a stout bristle, and a long hair: the two ventral apical bristles are unequal in length, but stand on a level with one another. The measurements of the tarsi are:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . .	10	18	11	6	16
Hindtarsus . .	31	25	11	8	18

Modified Segments.—The clasper of the ♂ is about as long as the manubrium (M), being triangularly produced at the upper corner (Pl. X. fig. 35, Cl.); it bears a number of hairs on the upperside and at the apex, and one ventrally near the base of the finger. The finger (F) is slender, somewhat lanceolate in outline, and projects a little beyond the apex of the clasper. The finger bears near the base two hairs, of which the upper one is the longer, a number of short hairs at the apex, and a few more farther down. The manubrium is slender. The ninth sternite (Pl. X. fig. 39) is not completely divided ventrally, the two halves being proximally connected by a bar of chitin. The eighth tergite of the ♀ (Pl. IX. fig. 28), drawn from dissection, is strongly angulated. There are several hairs above the stigma, a row from the stigma downwards, another row at the apical edge above and below

the angle, and several hairs proximally near the ventral edge, as shown in the figure. The stylet is cylindrical, being about three times as long as broad.

Length: ♂, 1·4 mm.; ♀, 1·7 mm.

We have 29 specimens of this collected by Mr. S. M. Klages, 12 ♂♂ and 17 ♀♀, from La Vuelta, Caura River, Venezuela, May 17th, 1903. On spring rat.

This species differs from its allies *Pulex bohlsi*, etc., in the bristles of the head and legs, the proportional length of the segments of the maxillary palpus, the clasping organs of the ♂, the eighth tergite of the ♀, etc.

The species is named in honour of Mr. S. M. Klages.

15. **Ceratophyllus hilli** spec. nov. (Pl. XI. fig. 43, 44).

Head.—The front portion of the head bears a row of six fine bristles between the antennal groove and maxillary palpus. Beneath this row is a number of small hairs irregularly scattered over the sides of the head. Again below this row there are two long bristles, and farther down another pair. The hinder part of the head bears one subapical and two oblique lateral rows of bristles. The ventral bristle and the second of the subapical row are situated widely apart. There is a single bristle and a number of small hairs placed above the antennal groove. The second segment of the maxillary palpus is as long as the fourth, or a little longer. The rostrum, which is longer in the ♀ than in the ♂, reaches beyond the end of the forecoxa, being in the ♀ nearly twice the length of the maxillary palpus. The fourth segment of the labial palpus equals the fifth in length, being about as long as the second and third together.

Thorax.—The pronotum has a comb of seventeen to twenty teeth, and bears two rows of bristles. The mesonotum has about six rows of bristles, the anterior rows not being regular. Before the apex of the mesonotum there is one hair-like spine. The mesothoracical epimernum has two vertical rows of three bristles each. The metanotum bears three rows of bristles, and a few additional ones in front. On the metathoracical epimerum there are fourteen to sixteen bristles.

Abdomen.—The first abdominal tergite bears three rows of bristles and a number of hairs in front, while the tergites 2 to 7 have two rows with a short third row and some additional hairs on the back. The bristles of the seventh tergite of the ♀ are restricted to the back of the segment, not extending halfway down to the stigma. The seventh tergite bears two heavy long apical bristles on a double cone, the lower one being more than twice the length of the upper one. On the sternite of the first segment there is only one ventral bristle on each side, and no lateral ones; while on the following five sternites there is a ventral patch of bristles, of which the posterior ones are long. The stigmata are pear-shaped. The pygidial plate of the ♀ is much longer than it is broad in side-view, and raised behind, projecting backwards.

Legs.—The hairs of the forecoxa are numerous. The mid- and hindcoxae have a patch of hairs anteriorly on the outerside, and bear posteriorly at the apex two long and one very short hairs. On the forefemur there are several hairs scattered over the outerside, one long one standing ventrally before the apex. The hindfemur bears two or three fine hairs behind the basal ventral incision, and on the outerside three or four hairs ventrally near the apex, the posterior one being the longest. This row is generally continued basad by one or two very short hairs. The foretibia has six pairs of dorsal bristles, the first and fifth being short, and bears two rows of

hairs on the outerside, the upper row standing close to the dorsal bristles. All the tibiae have hairs along the ventral edge. The mid- and hindtibiae have each seven pairs of dorsal bristles. The hindtibia bears on the outerside a great number of hairs arranged in four irregular rows. The longest dorsal apical bristle of the hindtibia is about one-fourth shorter than the first hindtarsal segment. The apical spines of the hindtarsal segments are stout, the longest of the second segment not reaching to the apex of the third. The fourth segment of the hindtarsus is more than twice as long as it is broad. The fifth segment of all the tarsi bears five lateral bristles and a subapical hair. This segment has in the ♀ two short ventral spine-like bristles at the apex. In the ♂, however, there are two such bristles on the hindtarsus only, the fifth segment of the mid- and foretarsus bearing four. The measurements of the mid- and hindtarsus are as follows :—

	First segment.	Second segment.	Third segment	Fourth segment.	Fifth segment.
Midtarsus ♂ . .	24	22	15	10	23
„ ♀ . .	28	25	16	10	23
Hindtarsus ♂ . .	41	36	22	13	25
„ ♀ . .	50	39	23	14	26

Modified Segments.—The clasper of the ♂ (Pl. XI. fig. 43) is produced into rather a long process, which bears dorsally one long bristle preceded by two shorter ones. There are, besides, some hairs at the apex and at the ventral edge of the clasper. The finger (F) is long, scythe-shaped, and pointed at the apex, bearing a few hairs, as shown in the figure. The ninth sternite (Pl. XI. fig. 43, ix. st.) is rather broad, and bears several hairs at and near the apex ; it is not divided ventrally. The manubrium (M) is broad at the base, and strongly attenuated towards the end. The spiral of the penis consists of two coils. The eighth sternite is large, and bears numerous bristles.

The eighth tergite of the ♀ bears a few hairs above the stigma, four or five long ones at the apical edge, and a number of small ones besides, as shown in the figure (Pl. XI. fig. 44). The stylet is conical.

Length : ♂, 3 mm. ; ♀, 4·2 mm.

We have eight examples of this species, as follows :—

1 ♂, Williams, West Australia, August 1, 1900, *Bettongia penicillata* (Mr. B. H. Woodward).

1 ♂, Sydney, New South Wales, September 1898, *Dasyurus viverrinus*.

3 ♂♂ and 3 ♀♀, Sydney, New South Wales, August 10, 1890, *Perameles nasuta* (Dr. J. P. Hill).

This species is named in honour of Dr. J. P. Hill.

16. **Ceratophyllus woodwardi** * spec. nov. (Pl. X. fig. 41 ; XI. fig. 42).

About the same size as *C. hilli*.

Head.—The eye is large. There are many fine hairs situated between the antennal groove and the oral edge of the head, and a number of moderately long bristles. Above this hairy area there are two very heavy curved spines on one side of the head and one on the other (Pl. X. fig. 41). The bristles on the hinder part of the head are all broken in the specimen, but the grooves indicate their position, as shown in the figure. The dorsum of the head is

* This species is named in honour of Mr. B. H. Woodward of the Perth (West Australian) Museum

densely punctured, each puncture bearing a very fine and extremely short hair. The second segment of the maxillary palpus equals the fourth in length, being nearly twice as long as the third. The rostrum reaches a little beyond the apex of the coxa. The labial palpus consists of five segments, of which the first is the longest and the second the shortest.

Thorax.—The pronotum bears two rows of hairs and a comb of twenty-one teeth. The mesonotum bears three rows of hairs, besides numerous short ones near the base and two hair-like spines near the apex. On the metanotum there are two rows of hairs, with a few in front. The metathoracical epimerum bears seven bristles (2.3.2.) and two or three fine hairs in addition.

Abdomen.—The first abdominal tergite has three rows of hairs and a few in front, while the following segments bear only two rows and an abbreviated third one. On the seventh tergite the number of hairs is much reduced, the anterior rows being represented by a few hairs only and the posterior row of longer bristles hardly extending half way down to the stigma. There are two apical bristles on the seventh tergite (broken). The first sternite bears a row of fine hairs along the ventral edge, while the sternites 3 to 7 have a patch of bristles standing close together and partly arranged in a curved row, the last one being long. The stigmata are pointed behind.

Legs.—The lateral and posterior bristles of the forecoxa stand widely apart. The hindcoxa bears three bristles posteriorly at the apex, the third being short. The hindfemur has two bristles ventrally before the apex on the outerside, and one or two behind the basal ventral incision. All the tibiae have a row of ventral hairs, and on the outerside a lateral row of hairs and a subdorsal row of spine-like bristles, these standing close to the dorsal bristles. The longest dorsal apical bristle of the hindtibia is two-thirds the length of the first hindtarsal segment. The fifth tarsal segment bears on each side six bristles and a subapical hair, the first bristle being more ventral and the fourth more dorsal than the others. The ventral surface of this segment is hairy, and bears two spine-like bristles at the apex, these bristles standing widely apart. The apical spines of the hindtarsus are stout and short, the longest of the second segment not reaching to the apex of the third. The first segment bears eight pairs of short stout bristles at each side. The measurements of the fore- and hindtarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Foretarsus. . .	17	18	14	10	23
Hindtarsus . .	77	52	32	15	27

The pygidial plate is long, being highest posteriorly, projecting backwards as in *C. hilli*. The stylet is conical, and more than twice as long as it is basally broad. The anal sternite is peculiar, bearing ventrally near the base a transverse ridge or projection, which is beset with long bristles (Pl. XI. fig. 42).

Modified Segments.—The eighth tergite (Pl. XI. fig. 42) has some bristles above the stigma and a number of bristles farther down, of which the position is indicated in the figure; the bristles, however, are nearly all broken in the specimen. The eighth sternite is small and narrowed, bearing a few fine hairs at the apex.

This species is known from the ♀ only. We have one specimen from Perth, West Australia (B. H. Woodward). The host from which this specimen was secured is unfortunately not recorded.

17. **Ceratophyllus tristis** (Pl. XI. fig. 45. 47).

Typhlopsylla tristis Rothschild, *Ent. Rec.* xii. p. 36. t. 2. f. 1 (1900).

This is one of the species which stand intermediate between *Ceratophyllus* and *Ctenophthalmus* (= *Typhlopsylla*). After a more exhaustive study of the species allied to *C. tristis*, we find that *C. tristis* is better placed in the genus *Ceratophyllus* than in (*Typhlopsylla* =) *Ctenophthalmus*, at least for the present.

We here take the opportunity of supplementing the original description given in the *Ent. Rec.*

Head.—There are no genal spines. What is called in the original description a spine placed anterior to the antennal groove is the vestige of the eye. Segments 1 and 2 of the maxillary palpus are the same in length, being a little shorter than the fourth and much longer than the third. The rostrum reaches to the end of the forecoxa. The labial palpus consists of five segments, which are nearly equal in length, the second and third being only a little shorter than the others.

Thorax.—The metathoracical epimerum bears seven or eight bristles (3.3.2 or 3.2.2).

Abdomen.—The first abdominal sternite (Pl. XI. fig. 45. ♀) bears in the ♀ a great number of small hairs on the lateral surface, and about five long ones.

Legs.—There are two bristles posteriorly at the apex of the hindcoxa. They stand widely separate from one another, the second being very small. On the fifth tarsal segment there are four bristles on each side, besides a subapical hair. The segment bears, moreover, on the ventral surface, a subbasal pair and a thinner apical pair.

The eighth tergite of the ♀ is represented by fig. 47 on Pl. XI. The eighth sternite (viii. st., Pl. XI. fig. 47) bears some bristles at the apex. The bristles of the anal tergite of the ♀ are short; those standing in the middle of the anal sternite are long and close together. The stylet is conical, being more than twice as long as broad.

18. **Ceratophyllus thomasi** spec. nov. (Pl. XI. fig. 46. 48).

Head.—The head is slightly rounded, and is nearly the same in both sexes, being only a little more rounded in the ♂ than in the ♀. There is a row of fine bristles between the antennal groove and the maxillary palpus, and beneath this row another row of three longer ones, the uppermost of which stands at the antennal groove. On the hinder part of the head there is a subapical series of bristles, a single bristle above the antennal groove, and an oblique row placed anterior of these. The first and second segment of the maxillary palpus are of the same length, while the third is shorter and the fifth a little longer than the first. The rostrum reaches to the end of the forecoxa. The labial palpus consists of five segments.

Thorax.—The short pronotum bears one row of bristles and a comb of twenty-two teeth. The mesonotum bears also one row of bristles, but has in addition some hairs before this row, and some short spine-like hairs at the base, besides a hair-like spine before the apex. On the metanotum there are two rows of bristles. The metathoracical epimerum bears seven bristles (3.2.2).

Abdomen.—The abdominal tergites 1 to 6 bear two rows of bristles, the anterior row being very much reduced, and the second row consisting of four bristles on each side. On the seventh tergite the first row is vestigial in the ♂,

and the second row consists only of two bristles on each side. This tergite bears two rather short apical bristles on a double cone in the ♂, the ♀ having an additional bristle below them which is not situated on a cone. There is one small apical tooth on each side of tergites 1 to 4. The first sternite in the ♂ bears a single ventral hair. In the ♀ there are ventrally some small hairs, and in addition a bristle and a patch of small hairs situated near the upper edge, with one long bristle above it. On sternites 2 to 6 there are two bristles in the ♂ and a row of three or four in the ♀. The seventh sternite in the ♀ bears two or three farther up. The stigma is small, pear-shaped, and is situated between the first and the second bristles of the posterior row.

Legs.—The forecoxa has very few bristles. On the mid- and hindcoxae there are a few bristles at the anterior edge and two or three on the outer surface. The hindcoxa bears posteriorly at the apex two bristles standing widely apart. The femora have one bristle ventrally before the apex on the onterside. The tibiae bear a few hairs on the ventral side and one row on the outer. The hindtibia has seven pairs of dorsal bristles; the longer one of the fifth pair being as long as the tibia is broad. The longest apical dorsal bristle of the hindtibia is one-third shorter than the first tarsal segment. This segment is only a little shorter than the hindtibia. The fifth segment is similar to that of *C. tristis* (Roths.)*

The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . .	19	13	10	7	13
Hindtarsus . .	40	22	12	8	13

Modified Segments.—The eighth sternite of the ♂ is large. The finger (F) (Pl. XI. fig. 46) is large, slightly curved, and bears a few hairs at the edge, of which one, situated at its apical fourth, is the longest. The exact outline of the clasper cannot be made out from the single ♂ specimen. The ninth sternite (ix. st.) is apparently not divided ventrally, bearing at the apex on each side two spine-like bristles, of which the lower one is the stouter.

The eighth tergite of the ♀ bears no bristles above the stigma. At the apex and near the ventral margin there are about ten to twelve bristles. The eighth sternite (Pl. XI. fig. 48) bears at the apex a row of about six hairs. The stylet is conical and not quite three times as long as it is basally broad.

Length: ♂, 2·05 mm.; ♀, 2·7 mm.

We have one pair (♂, ♀) of this species taken by Mr. Oldfield Thomas, F.R.S., of the British Museum, off spirit specimens of *Acrobates pygmaea* from Australia. The precise locality is not known to me.

19. **Ceratophyllus zethi** spec. nov. (Pl. XI. fig. 50; XII. fig. 52).

Head.—The forehead (Pl. XI. fig. 50) bears a row of eight fine bristles situated between the upper end of the antennal groove and the frontal corner. There is one long bristle situated some distance before the eye, and another at the ventral edge a little in front of the long one. Between these bristles and the upper row the forehead bears on the side numerous small hairs. There are also two hairs beneath the eye at the ventral edge. The hinder part of the head bears two

* *Typhlopsylla tristis* Rothschild, *Ent. Rec.* xii. p. 36 (1900).

oblique rows of seven or eight bristles each, extending from the base of the antennal groove upwards and backwards. Farther back there is one bristle above the antennal groove, and a subapical row of long ones. The distance of the ventral bristle of this row from the next bristle is about twice as long as the distance from the second to the third. The back of the head is punctured. The first segment of the maxillary palpus is a little stouter than the second, while this is as long as the fourth and about twice the length of the third. The rostrum reaches beyond the end of the coxa. The labial palpus consists of six segments, the fourth and fifth segments appearing, however, to be completely fused.

Thorax.—The pronotum bears two rows of bristles and a comb of eighteen teeth. The bristles of the posterior row of the thoracical and abdominal tergites are very long, as is the case with that of the head. The mesonotum bears three rows of bristles, besides a basal row of fine hairs and two abbreviated and irregular antemedian rows. Dorsally before the apex on each side there are two long slender spines. The metanotum bears three rows of bristles, besides some additional hairs on the back. The epimerum of the metathorax bears about fourteen bristles.

Abdomen.—All abdominal tergites bear three rows of bristles and some hairs in addition, the latter being especially numerous on the first tergite. The rows of the seventh tergite are all abbreviated. The second tergite bears on each side two short apical spines, and the third and fourth one. The seventh tergite bears two moderately long bristles on a double cone on each side, the lower one being the longer. The stigma is small and pointed behind. The first sternite bears one ventral apical bristle. The following three bear a ventral patch of hairs, of which the last two or three are prolonged. The hairs of the sixth sternite are more numerous, there being about twenty-five on each side. Those of the seventh are about eighteen in number, of which the posterior ones, although prolonged, are shorter than the respective bristles of the sixth segment.

Legs.—The mid- and hindcoxae are hairy on the outerside at and near the ventral edge from near the base to near the apex. The hindcoxa bears, moreover, a patch of small hairs situated on the innerside near the apex, these hairs pointing forward. There are two long bristles posteriorly at the apex of the mid- and hindcoxae, followed by one small hair. The anterior femur bears two rows of hairs on the outer surface, and two additional ones ventrally before the apex. On the hindfemur there are two subapical ventral bristles on the outerside, preceded by one or two small hairs, while there is only one small bristle ventrally near the apex on the innerside. The outer surfaces of the tibiae are hairy, there being on the hindtibia three rows of hairs besides a number of additional hairs standing near and at the ventral edge. The longest apical dorsal bristle is shorter than the first hindtarsal segment, while the corresponding bristle of the midtibia is longer than the first midtarsal segment. The fourth hindtarsal segment is more than twice as long as it is broad. The fifth segment bears four bristles on each side, besides a subapical hair and two short ventral apical bristles standing widely apart. The second segment of the foretarsus is one-third longer than the first. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	25	25	15	9	22
Hindtarsus . .	47	38	23	13	24

Modified Segments.—♀. The eighth abdominal tergite bears some hairs above the stigma. There is a subapical row of about eight hairs, of which the upper ones are the longest, the posterior ones being very small, and there is in addition a number of hairs on the lateral surface (Pl. XII. fig. 52). The eighth sternite bears a few hairs at the apex. The stylet is conical and a little over twice as long as it is basally broad.

Length : ♀, 3·08 mm.

We have one ♀ of this species taken from *Bettongia cuniculus*, Gippsland, Victoria, August 1st, 1898.

20. **Ceratophyllus ochi** spec. nov. (Pl. XI. fig. 49 ; XII. fig. 54).

Head.—The front of the head is much more rounded in the ♂ than in the ♀. There are two rows of bristles in front of the eye, the first row consisting of six short ones, the second row of three very long ones, the ♂ bearing in addition one more long bristle standing above the upper one of the second row, but nearer to the first row. On the hinder part of the head there are four bristles above the antennal groove, the first standing near the base of the groove, and the last belonging to the subapical row. This row is, in addition, represented by two more bristles placed farther upwards. Above the second supra-antennal bristle there is a smaller one placed a little farther back. The small hairs above the antennal groove stand in a row, and are more numerous in the ♂ than in the ♀, there being about twelve in the ♂ and six in the ♀. The head is minutely dotted on the back. The long hairs at the apex of the second segment of the antenna, of which hairs there are about ten in number, are longer than the club of the antenna in the ♀ and shorter in the ♂, the club being much more elongate in the ♂ than in the ♀. The rostrum is much shorter than the anterior coxa, the last segment being about one-fourth longer than the last but one. The labial palpus consists of five segments.

Thorax.—The pronotum bears one row of bristles and a comb of seventeen or eighteen teeth. The meso- and metanotum bear each two rows of bristles, the first row consisting of three, the second of four or five on each side. The mesonotum is much longer than the metanotum ; it bears a very few short hairs at the basal edge. On the epimerum of the metathorax there are seven bristles (3.1.3), the middle one of the first three and the ventral one of the last three being anterior in position to the other bristles of the respective rows.

Abdomen.—The abdominal tergites bear each two rows of bristles, the anterior row containing on the middle segments three bristles on each side, and the posterior row five. The stigma, which is somewhat pear-shaped, stands above the ventral bristle of the second row. Tergites 2, 3 and 4 bear a short stout apical spine on each side. The sternites of segments 2 to 6 bear in the ♂ a row of two or three, in the ♀ three or four bristles and an additional bristle in front. On the basal sternite of the ♀ there are besides, near the upper edge, which is shallowly emarginate, some small hairs and one long bristle. On the seventh sternite of the ♀ there are twelve to fourteen bristles on each side, standing nearly all in a strongly curved row. The seventh tergite bears two long apical bristles, of which the upper one is about one-third or nearly one-half shorter than the lower one. In the ♀ there is a third bristle standing beneath the two, being intermediate in length.

Legs.—The mid- and hindcoxae bear two bristles posteriorly at the apex, the bristles being separate. At the anterior edge of the hindcoxa there are five or six bristles, and on the outerside a vertical row of five. The mid- and hindfemora

have ventrally near the apex one bristle on the outerside and a short hair on the innerside. The mid- and hindtibiae bear three (seldom two) short hairs at the ventral edge, and a row of seven longer ones on the outer surface close to the dorsal bristles. The longer bristle of the fifth dorsal pair is as long as the tibia is broad. The long dorsal apical bristle of the midtibia reaches to the apex of the first tarsal segment, while the respective bristle of the hindtibia is only one-third the length of the first hindtarsal segment. The apical bristles of the tarsal segments are short, the longest of the second hindtarsal segment reaching to the middle of the third. The fifth tarsal segment bears four bristles on each side, besides a subapical hair, and in addition a ventral subbasal pair.

Measurements :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂ ♀ .	17	17	11	8	14
Hindtarsus ♂ ♀ .	50	30	16	9	15

The first hindtarsal segment is as long as the hindtibia measured along the ventral edge.

Modified Segments.—The eighth sternite of the ♂ is very large. It bears on each side about nineteen bristles, of which one situated at the apex is the longest, two more situated farther upwards being also generally long. The clasper (Pl. XI. fig. 49) is produced into a long slender process (P) bearing some bristles. The finger (F) is slightly curved, and bears a number of hairs of various sizes at the apex. The finger does not appear to be jointed with the clasper, but represents apparently a second process. The ninth sternite is not divided ventrally ; it is rather large, boot-shaped, and stands in connection with a peculiar unpaired organ bearing three very stout spines (Pl. XI. fig. 49).

The eighth tergite has no bristles above the stigma. On the ventral portion of the tergite there are a great number of bristles, as shown in the figure (Pl. XII. fig. 54). The eighth sternite has some hairs at the apex.

The stylet is slightly conical, being four times as long as it is basally broad.

Length : ♂, 2·02 mm. ; ♀, 2·9 mm.

We have five examples of this insect, as follows :—

4 ♂♂ and 1 ♀ from Victoria, Australia, from an Opossum.

21. **Ceratophyllus novaeguineae** spec. nov. (Pl. XIII. fig. 66, 67).

Head.—The forehead (Pl. XIII. fig. 66) of this species is rather strongly rounded for a ♀. There are six small bristles between the upper end of the antennal groove and the maxillary palpus, and farther down another row of three, of which the ventral one stands just behind the palpus and the upper one halfway between the first row and the eye. Between the two rows there are two more bristles, the upper one being long and the lower one short, besides a number of small hairs situated near the antennal groove. From the eye forward there is a nearly horizontal row of three bristles, the one at the eye being short and the one at the oral edge of the head being long. The hind part of the head bears two oblique rows of bristles and a long bristle above the antennal groove. The ventral bristle of the subapical row and the next bristle stand widely apart. The second segment of the antenna bears a long apical bristle and some finer hairs in addition. Segments 1, 2, and 4 of the maxillary palpus are nearly of

the same length, being longer than the third. The rostrum reaches beyond the apex of the forecoxa, the labial palpus consisting of six segments.

Thorax.—The pronotum bears two rows of bristles and a comb of eighteen teeth. The mesonotum has three rows of bristles and some additional hairs on the back, besides a row at the base, there being also a long subapical spine on the back at each side. The mesothoracical epimerum bears six bristles (3.3). The metathoracical epimerum bears ten (4.2.4), and a few small hairs in addition situated between the posterior bristles.

Abdomen.—The first abdominal tergite is very hairy, bearing six rows and a few additional hairs, the anterior rows being short and irregular. The posterior row of bristles of all the tergites is curved. Tergites 2 to 6 bear three rows each, the first row reaching only halfway down to the stigma. The bristles of the seventh tergite are reduced in length and number. There are two apical bristles on this tergite, situated on a double cone, with one bristle above and another below them *not* situated on a cone. There is one apical spine on each side of tergites 2 to 5. The stigma is pointed behind. It stands on a level with the third or fourth bristle of the posterior row on segments 4 and 5. The basal sternite bears one ventral bristle and no lateral ones. The sternites of segments 3 to 7 have a ventral patch of about sixteen hairs each, extending from near the base to near the apex, the posterior hairs being long and arranged in a row, the others short.

Legs.—The mid- and hindcoxae have on the onterside a patch of hairs extending up to the middle, and bear, in addition, some hairs farther up at the anterior edge, and two or three on the onter surface. There are two long and one short hair posteriorly at the apex. All the femora have one small subapical ventral hair on the innerside. On the outerside the forefemur bears a few small hairs and one longer subapical ventral one. The hindfemur bears three subapical ventral bristles exteriorly, preceded by a row of five minute ventral hairs. The tibiae bear some ventral hairs, and on the outerside two rows of bristles, of which one stands near the dorsal bristles. All the tibiae have seven pairs of dorsal bristles, the longer bristle of the fifth pair of the hindtibia being fully twice as long as the tibia is broad at the apex. The tarsi are only partly preserved in the single specimen. The fifth segment bears five bristles on each side, besides a subapical hair. The measurements of the tarsi are as follows:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . .	30	22	13	8	19
Hindtarsus . .	62	42	?	?	?

Modified Segments.—The exact outline of the eighth tergite cannot be made out from the type. There are some fine hairs above the stigma, and about fifteen at and near the apex, four of which placed along the edge are long (Pl. XIII, fig. 67). The pygidial plate is longer than broad in side view, elevate behind and projecting backwards. The stylet is cylindrical and about five times as long as it is broad.

Length: ♀, 3·8 mm.

We have one specimen of this species taken from *Peramelcs raffrayanus*, Huon Gulf, New Guinea.

22. **Ceratophyllus ahalae** spec. nov. (Pl. XI. fig. 51 ; XII. fig. 55 ; XIII. fig. 60).

Head.—The head is very strongly rounded (Pl. XI. fig. 51). There are about eighteen bristles on the forehead, and some additional small hairs distributed as shown in the figure. On the hinder part of the head there are two oblique rows of bristles, besides a subapical row and a single bristle above the antennal groove. Above the antennal groove are a great number of small hairs, and also several behind the subapical row. The first and second segments of the maxillary palpus are of the same length, being a little shorter than the fourth. The rostrum does not quite reach to the apex of the forecoxa. The labial palpus consists of five segments, of which the last is the longest, being nearly twice the length of the second. The first segment of the antenna bears an oblique longitudinal row of four hairs, while the second bears a transverse row.

Thorax.—The pronotum has a comb of twenty-four teeth, and bears two rows of bristles besides some additional hairs on the back and three or four short hairs laterally. The mesonotum bears five oblique rows of hairs, besides numerous additional ones, and has one subapical spine. There are five bristles on the mesothoracical epimerum, and four on the episternum. The metanotum, which is somewhat longer than the mesonotum, bears four rows of bristles. The metathoracical epimerum bears twelve or thirteen bristles, besides some small hairs.

Abdomen.—The abdominal tergites have three rows of bristles, the first row, however, being short on segments 2 to 7, while on the first tergite there is an additional fourth row in front. The seventh tergite bears two strong apical bristles on a double cone on each side, the lower one being more than twice the length of the upper and being of the same length as the metathorax. The stigma is long, acuminate, and stands on all segments above the first bristle of the last row. Between the first and second bristles there are two short hairs, indicating that the species has here lost one long bristle. The first sternite bears a number of hairs on the ventral surface, but none on the side. All the other sternites have a rather large ventral patch of hairs, of which the posterior ones are prolonged.

Legs.—The bristles of the forecoxa are very numerous. The mid- and hindcoxae bear on the onterside a number of bristles at and near the ventral (anterior) edge from the apex to the middle, the apical and subapical ones being long. There is also a row of hairs at the ventral edge from near the base to the apex. The hindcoxa has on the innerside a number of small hairs anteriorly near the apex. Posteriorly at the apex there are two long bristles followed by a small hair. All the femora have one small bristle ventrally near the apex on the innerside. On the onterside there are on the forefemur two rows of hairs and two subapical ventral bristles, while on the mid- and hindfemora there are three subapical ventral bristles. The hindfemur bears, in addition to the basal ventral pair of bristles, another bristle situated behind the sinus. The tibiae are hairy all over the outer surface and at the ventral edge. The longest dorsal apical bristle of the hindtibia is nearly one-third shorter than the first hindtarsal segment. The first foretarsal segment is longer than the second. The fifth segment of the fore- and midtarsus is peculiar. It bears on each side six pairs of bristles besides a subapical pair. Of these bristles the first and third are more ventral, while the fourth is more dorsal and thinner than the others. Moreover, there are ventrally at the apex four spine-like bristles (Pl. XIII. fig. 60). The fifth segment of the hindtarsus bears five lateral bristles and two ventral apical ones. The sole of the fifth tarsal segment is hairy. The first

midtarsal segment is much longer than the second. The first hindtarsal segment is nearly as long as the hindtibia, and bears nine or ten pairs of short bristles at each side. The apical bristles of all segments are short. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . .	36	21	13	9	22
Hindtarsus . .	78	53	29	17	25

Modified Segments.—The eighth tergite is small, while the sternite is very much enlarged and bears numerous heavy and long bristles. The clasper is short and rounded, and bears a few hairs at the edge (Pl. XII. fig. 55). The finger (F) is very much prolonged, curved down at the apex and pointed. It bears at the ventral edge a row of long hairs, and some small hairs at the upper edge and on the outer surface. The manubrium (M) is large, acuminate, and curved upwards at the tip. The ventral portion of the ninth sternite is densely hairy at the apex, and bears a lateral lobe as shown in the figure. The spiral of the penis is not coiled, being only slightly curved upwards.

Length : ♂, 4·2 mm.

We have one ♂ specimen from Sidapur, India, May 24th, 1901, from the "small jungle squirrel."

23. **Ceratophyllus alladinis** spec. nov. (Pl. XII. fig. 53).

Head.—The front of the head bears a distinct tooth. Before the eye there is a series of three bristles, the upper one standing just in front of the eye. In between these bristles, as well as between them and the antennal groove, there are a number of short hairs. The head from these bristles upwards is punctured. The hinder part of the head is similarly punctured nearly as far down as the antennal groove. There are several small hairs above the antennal groove on the hinder part of the head and one bristle, which is occasionally preceded by a second. The subapical bristles are five in number on each side, the first and second being rather widely apart. The rostrum reaches a little beyond the end of the forecoxa, the last segment being about one-fourth longer than the last but one.

Thorax.—The pronotum bears one row of bristles and a comb of eighteen or nineteen teeth. On the mesonotum there are two series of bristles and a subapical comb of about sixteen hair-like spines on the two sides counted together. There are also a number of small hairs at the base. The episternum of the mesothorax bears several small hairs in front, one or two longer ones in the centre, and one or two bristles behind. On the mesothoracical epimerum there are five or six bristles—two or three in front and three behind. The metanotum, which is much shorter than the mesonotum, bears two rows of bristles and a few hairs on the back, and possesses on each side two or three short stout apical spines on each side. There are three long bristles on the metathoracical epimerum—one near the hinder edge, one just below the stigma, and the third farther down. Besides these there is generally one shorter bristle below the stigmatical one, and two or three are placed towards the base.

Abdomen.—The abdominal tergites bear each two rows of bristles; tergites

1 and 2 have two short apical spines on each side, and the third tergite one. The seventh tergite bears three or four long apical bristles. Between the first and second bristles of the posterior row there are on most of the tergites two very small hairs instead of one. The stigma is rather large and rounded, being obtusely produced backwards. It stands below the first bristle of the first row and above the first bristle of the second row. The basal sternite of the abdomen bears a long ventral bristle and a lateral row of three or four. The sternites of segments 3 and 7 bear on each side a row of five or six long bristles, with one or two smaller hairs in addition; while there are one or two bristles less on the intermediate segments. The seventh sternite is rather deeply sinuate.

Legs.—The bristles on the forecoxa are not numerous. The mid- and hindcoxae have two bristles posteriorly at the apex. All the femora have on the outerside one long ventral subapical bristle, the forefemur bearing in addition several small lateral hairs. On the inner surface there is a row of hairs, of which the last is ventral and subapical, the hairs being four to six in number on the hindfemur and four on the mid- and forefemora. The tibiae bear on the outerside one row of hairs standing near the dorsal bristles, and on the innerside a row of four to six shorter hairs. There are also a number of hairs at the ventral edge. The three bristles in the subapical ventral incision of the tibiae are rather stout. The longest apical dorsal bristle of the hindtibia is one-third shorter than the first hindtarsal segment. This segment bears five pairs of bristles on each side, and only one or two smaller bristles on the ventral surface. The other hindtarsal segments are also nearly devoid of bristles situated on the ventral surface except the fifth, which is hairy. The fifth segment bears five bristles on each side, besides a subapical hair. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	21	19	12	9	19
Hindtarsus . . .	48	29	17	10	20

Modified Segments.—On the eighth tergite (Pl. XII. fig. 53) there are rather a large number of bristles above the stigma and two long ones below it. The apex of the tergite is emarginate. There are a number of hairs on the lower half of this tergite, as shown in the figure. The stylet is about three times as long as it is broad, being slightly conical, but becoming suddenly narrowed at the apex. The tenth sternite bears two long apical hairs, besides a number of short ones, and several short spine-like bristles ventrally and laterally in the middle.

Length : ♀, 3·6 mm.

We have two ♀♀ from Sidapur, 24th May, 1901. "Small jungle squirrel."

This species is nearest to *C. californicus* and *C. ciliatus*, of Baker, according to the descriptions of these insects. Both these species possess, however, a row of bristles anterior to the eye-row. In *C. ciliatus*, moreover, the abdominal sternites have two rows of bristles, and the eighth tergite bears five long bristles below the stigma. In *C. californicus* the mesonotum is described as having three rows of bristles, and the first segment of the midtarsus as being distinctly longer than the second.

24. **Ceratophyllus endymionis** spec. nov. (Pl. XIV. fig. 70).

This species is closely allied to *C. alladinis*, but differs in the following details :—

Head.—The frontal tooth of the head is less distinct. The small hairs in front of the eye are much less numerous, and there are two or three small bristles situated near the antennal groove in a transverse row in front of the three eye-bristles.

Thorax.—The mesonotum is much more hairy on the back than in *C. alladinis*. The metanotum bears several bristles in front of the anterior row. There are one or two short apical spines. The short hairs on the mesothoracical episternum are rather more numerous.

Abdomen.—The first abdominal tergite bears three rows of bristles and some additional hairs on the back in front of them. The other tergites, except the seventh, have also a few bristles in front of the anterior row. The anterior row of hairs on the seventh tergite is restricted to the back, consisting of five hairs on the two sides together. There are three bristles at the apex of the seventh tergite. The basal sternite of the abdomen bears one ventral bristle on each side and a small lateral hair. The seventh sternite is much less obviously sinuate.

Legs.—The first hindtarsal segment bears six pairs of bristles on each side and a ventral row of three or four smaller bristles on the posterior (outer) side. The second and third segments bear such a ventral row on each side. The measurements of the mid- and hindtarsus are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	24	22	13	8	18
Hindtarsus . . .	50	32	21	12	21

Modified Segments.—The eighth tergite (Pl. XIV. fig. 70) is much less emarginate at the apex than in *C. alladinis*.

Length, 3·4 mm.

We have two ♀♀ collected by Mr. J. A. Wolffsohn at Valparaiso, Chile, from *Marmosa elegans*.

This species is also closely allied to *C. californicus* Baker, but differs from that insect in having the mesonotum much more hairy on the back, the metanotum of *C. endymionis* having also several additional hairs in front of the two rows.

25. **Ceratophyllus agrippinae** spec. nov. (Pl. XII. fig. 56. 57; XIII. fig. 62. 64).

Head.—The head is slightly but evenly rounded in both sexes, resembling in outline somewhat that of the ♀ of *Pulex irritans*. On the front there is a groove from which projects a heart-shaped spine (Pl. XIII. fig. 62). The forehead bears two rows of bristles between the antennal groove and the maxillary palpus, the rows being close together, the upper consisting of three or four bristles, the lower of three longer ones. Below the eye, at the antennal groove, there is a long spine-like structure, which is not completely free, being separated from the genal process only by an impressed line. The hinder part of the head bears one bristle

in front, an oblique row of three behind the middle, and a subapical row. The interspaces between these bristles of the subapical row are nearly the same. The second segment of the antenna bears an apical row of long hairs. The club is short. The first segment of the maxillary palpus is of the same length as the second, and is a little shorter than the fourth, but longer than the third. The rostrum reaches to the apex of the coxa, the labial palpus consisting of four long segments.

Thorax.—The pronotum bears two rows of bristles and a comb of twenty-seven teeth in the ♂ and of thirty to thirty-five teeth in the ♀. The mesonotum of the ♂ bears three rows of bristles and a row at the base, besides some hairs on the back. In the ♀ it is hairy from the base to the last row of bristles, there being in addition a subapical row of four to seven long hair-like spines. The metanotum, which is little over one-half the length of the mesonotum, has two rows of bristles and some hairs besides. The episternum and epimerum of the mesothorax bear together twenty bristles or more, four of these standing in a row at the ventral edge. The episternum and sternum of the metathorax have together a vertical row of seven to nine bristles, while the epimerum bears seventeen to twenty-seven, there being more in the ♀ than in the ♂.

Abdomen.—The abdominal tergites bear two rows of bristles, the anterior row being reduced in the ♂, and only vestigial on segments 6 to 7. The small hairs between the bristles of the second row are short. The seventh tergite bears in the ♂ three long apical bristles situated on a triple cone, the middle one being longer than the mesonotum and more than twice the length of the upper, while the lower one is one-third shorter than the middle one. In the ♀ there are four bristles, the third being the longest, the fourth the shortest, while the first and second are not much shorter than the third. The tergites 1 to 5 bear each a comb, as follows :—

	First tergite.	Second tergite.	Third tergite.	Fourth tergite.	Fifth tergite.
♂	22 teeth	15 teeth	11 teeth	6 teeth	0 teeth
♀	25—33 teeth	13—16 teeth	11—12 teeth	6—8 teeth	1—2 teeth

The stigma is small, somewhat pointed behind, and stands between the first and second bristles of the second row on the middle segments, being placed close to the second row in the ♂, and to the first row in the ♀. The basal sternite bears two ventral bristles, while the following four sternites bear three in the ♂ and seven or five in the ♀ on each side. The sternite of the second segment has four bristles in the ♂ and a series of about eleven in the ♀. All the sternites bear in the ♀ two or three hairs before this row. The pygidial plate is not elevate behind.

Legs.—The hairs of the forecoxa are numerous. The midcoxa bears hairs at and near the anterior edge. These are situated from the apex halfway down towards the base. On the hindcoxa the hairs are more numerous than on the midcoxa, the hairy area being rather more extended. There are three bristles posteriorly at the apex of the hindcoxa, the upper one being slightly the shorter. The femora have one subapical ventral hair on the innerside, and no hairs laterally on the inner surface, except one situated before the middle (which is sometimes absent). There are two subapical ventral bristles on the outerside, the second being the longer. The basal ventral sinus is not deep, there being behind it one or two hairs. The bristles of the tibiae are heavy. There is ventrally before the apex of the hindtibia

an incision bearing five or six short heavy bristles. Above these there are some hairs. The dorsal paired bristles of the tibiae are accompanied by two rows of heavy bristles, the dorsal row standing close to the dorsal pairs. The longest apical bristle of the foretibia reaches nearly to the apex of the second tarsal segment, while that of the hindtibia extends to the apex of the first segment. The longest apical bristle of the first hindtarsal segment extends to the apex of the second, and that of the second to the apex of the fifth. The first hindtarsal segment is a little over half the length of the tibia. The first midtarsal segment is longer than the second. The fifth segment bears four bristles on each side, besides a subapical hair. The claw is slender. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂ . .	23	14	9	7	15
„ ♀ . .	30	17	10	7	16
Hindtarsus ♂ . .	42	29	14	9	16
„ ♀ . .	47	32	16	10	16

Modified Segments.—The eighth sternite of the ♂ is large, bearing numerous hairs. It is emarginate below at each side. The clasper (Pl. XII. fig. 56) is produced into two small lobes, the upper one bearing a long bristle. On the lower one there are several short hairs and one long one. The finger (F) is long, curved downwards at the apex, and bears some fine hairs at the end. The manubrium (M) is large, elongate-triangular, with the tip curved upwards. The ninth sternite is (apparently) not divided ventrally (Pl. XIII. fig. 64). It bears five bristles just before the apex and two farther basad, besides some fine hairs. The spiral of the penis has a single whorl. The eighth tergite of the ♀ projects backwards above. It bears a number of rather heavy hairs above the stigma. The bristles on the lower half are numerous (Pl. XII. fig. 57). The stylet is very long and slender, being at least seven times as long as it is broad.

Length : ♂, 2·5 mm. ; ♀, 3·3 mm.

We have six specimens of this species, collected by Mr. C. J. B. Grant :—

1 ♂, Deelfontein, Cape Colony, March 19th, 1902, *Otomys brunti*.
3 ♀♀, „ „ „ „ „ „ „
1 ♀, „ „ „ April 11th „
1 ♀, „ „ „ August 27th „ „ *unisulcatus*.

26. **Ceratophyllus dorippae** spec. nov.

Similar to *C. agrippinae*, but differing from it in the following characters :—

Head.—The rostrum is longer, the last segment being nearly twice the length of the fourth segment of the maxillary palpus.

Abdomen.—The bristles on the abdominal tergites are numerous. The seventh tergite bears three long apical bristles (♀), of which the uppermost is longer than in *C. agrippinae*. The teeth in the combs of the abdomen are fewer in number, the numbers being :—

	1st tergite.	Second tergite.	Third tergite.	Fourth tergite.	Fifth tergite.
	12	2	3 (or 4 ?)	1	0

The bristles on the seventh sternite are more numerous. The eighth tergite bears a greater number of small hairs between the stigma and the apical bristles. The stylet is much shorter.

Legs.—The hindfemur has three subapical ventral bristles instead of two on the outerside. The bristles of the tibiae and tarsi are rather stouter, the longest apical bristle of the hindtibia not reaching to the apex of the first tarsal segment, and that of the second hindtarsal segment hardly reaching the middle of the fifth segment. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . . .	42	24	13	10	21
Hindtarsus . . .	65	48	23	14	23

We have one ♀ collected by Mr. C. J. B. Grant at Deelfontein, Cape Colony, April 3rd, 1902, from *Herpestes badius*.

27. **Ceratophyllus numae** spec. nov. (Pl. XII. fig. 58 ; XIII. fig. 59, 63, 65).

Head.—The head is much more strongly rounded in the ♂ than in the ♀. The forehead is very strongly angulate, but the angle is situated close to the maxillae, giving the head a peculiar shape (Pl. XIII. fig. 63). There is a row of rather thin bristles between the antennal groove and the maxillary palpus. Two longer bristles are situated between the eye and the palpus, and one more below the eye. The forehead from the upper row of bristles upwards, as well as the back of the hinder part of the head, is densely punctured. The genal angle bears two heavy spines standing close together, the upper one partly covering the second. The posterior part of head bears one bristle close to the base of the antennal groove, three bristles farther back, and a subapical series, besides some fine hairs along the antennal groove. The first segment of the maxillary palpus is a little longer than the second and shorter than the fourth. The rostrum does not quite reach to the apex of the forecoxa, the labial palpus consisting of four segments only, of which the last is longer than the preceding one.

Thorax.—The pronotum is short ; it bears one row of bristles and a comb of twelve teeth. The mesonotum has two rows of bristles and a basal row of short ones, and bears two or three long subapical spines. The metanotum has two rows of bristles and a comb of four short black apical teeth (two on each side). The epimerum of the mesothorax bears three bristles, while that of the metathorax has seven or six (4.3 or 3.3).

Abdomen.—The bristles of the abdomen are slender but long. There is an abbreviated antemedian row and a postmedian row on each segment. Tergites 1 to 4 have one short apical spine on each side, and bear, like the metanotum, some extremely short spines in addition. The seventh tergite bears on each side one long apical bristle, accompanied by a very small hair above and below. The basal sternite bears one hair, the following four sternites a row of three in the ♂ and four or five in the ♀. The sternite of the seventh segment bears three in the ♂ and six in the ♀.

Legs.—The hindcoxa has on the innerside a comb of four (in ♂) to six or seven (in ♀) spines, the hairy area of the outerside extending from the apex beyond the

middle. There are two bristles posteriorly at the apex, the second being the shorter. The forefemur has one subapical ventral hair and three lateral ones on the outerside. On the hindfemur there are two ventral subapical bristles on the outerside and one lateral subapical bristle on the innerside. The tibiae have one row of lateral bristles on the outerside and a number of ventral hairs, of which the subapical pair is heavy, but short. The fifth and sixth pairs of dorsal bristles of the hindtibia are far apart, with a single short stout bristle in between. The longer bristle of the fifth pair is longer than the longest apical one, the latter not reaching to the apex of the first hindtarsal segment. The longest apical bristle of the second hindtarsal segment reaches to the apex of the fourth segment. The fifth segment bears four bristles on each side and a subapical hair. The sole of this segment is hairy, and bears at the apex two short widely separated bristles. The measurements of the tarsi are as follows:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂ . .	13	12	8	6	15
„ ♀ . .	15	14	10	7	15
Hindtarsus ♂ . .	28	19	11	8	15
„ ♀ . .	34	20	12	8	17

Modified Segments.—The eighth tergite of the ♂ is large, with some long bristles placed as shown in the figure (Pl. XII. fig. 58, drawn from slide). The eighth sternite is very small, curved, finger-like (Pl. XII. fig. 58, viii. st.). The finger (F) is straight, elongate-conical, with some hairs, of which one near the apex and another above the middle are the longest. The manubrium (M) gradually narrows to the apex, and is slightly curved. The ninth sternite (Pl. XIII. fig. 65, ix. st.) is mesially not divided (as far as can be made out from the slide). It is very peculiar in structure, bearing three large scales (modified bristles) near the apex, of which two are frayed out at the edges. The spiral of the penis consists of a quarter of a coil only.

The eighth tergite of the ♀ is without hairs above the stigma. It bears one long bristle below the stigma, and a number of hairs farther down, as shown in Pl. XIII. fig. 59 (taken from the slide, the outline in consequence not being exact). The eighth sternite is small. The stylet is cylindrical, being about four times as long as it is basally broad. The anal sternite bears some heavy spine-like bristles beneath.

Length: ♂, 1·7 mm.; ♀, 2 mm.

We have three examples of this species, 1 ♂ and 2 ♀♀, from Deelfontein, Cape Colony, March 19th, 1902, from *Otomys brantii*, collected by Mr. C. J. B. Grant.

28. **Ceratophyllus octavii** spec. nov. (Pl. XIII. fig. 61).

♀. This species is closely allied to *C. nanus* in having two genal spines.

Head.—The head is much more strongly rounded than in that species. The frons is not angulate, but bears just a trace of a notch about midway between the maxillary palpi and the first pale spot. The two genal spines lie across each other, the point of the second being visible in front of the first.

Thorax.—Each of the thoracical and abdominal tergites bears one row of

bristles and one or two hairs indicating an anterior second row. The minute serration of the metanotum and the abdominal tergites 1 to 6 is more distinct than in *C. numae*. The metathoracical epimerum bears three bristles from the stigma downwards and one in front.

Abdomen.—The sternite of the third abdominal segment bears five bristles on each side, those of segments 4 to 6 only three bristles, and that of segment 7 four.

Legs.—While in *C. numae* there are six pairs of dorsal bristles on the hindtibia with an additional short bristle between the second and third and between the fifth and sixth pairs, there are no additional bristles in the present species, or only one between the second and third pairs. The row of hairs on the outer-side of the hindtibia consists only of four or five hairs, as compared with the eight hairs of *C. numae*.

Modified Segments.—The seventh abdominal sternite is not sinuate, as in *C. numae*, and the eighth tergite bears a much smaller number of bristles (Pl. XIII. fig. 61).

The stylet is somewhat shorter than in *C. numae*.

Length : ♀, 2 mm.

We have two ♀-examples of this species from Deelfontein, Cape Colony, November 11th, 1902, from *Graphoculuris biurus*, collected by Mr. C. J. B. Grant.

29. **Typhloceras rosenbergi** * spec. nov. (Pl. XIII. fig. 68, 69 ; XIV. fig. 71, 74).

Head.—The front of the head bears a very slight notch in both sexes. There are three long bristles between the antennal groove and the insertion of the maxillary palpi, and in front of this row there is another of eight or nine shorter bristles. The anterior part of the head is, besides, covered with numerous very short hairs. There are four genal spines. The first and second are broad, acuminate, their anterior outline being curved; the two spines stand close together, the second covering the first. The third spine is a little longer than the second, but much narrower, while the fourth is shorter and slenderer than the third. The gena itself is produced backwards below the eye into a pointed process. The eye is distinct and transparent. The occiput bears three oblique rows of hairs besides the subapical row. Above the antennal groove there are in the ♂ numerous very short hairs, not situated in one single row, and extending from the insertion of the antenna to the hinder edge of the head. In the ♀ these hairs are practically restricted to a patch situated near the hinder edge of the head. The first, second, and fourth segments of the maxillary palpus are of about the same size, while the third segment is a little over half their length. The rostrum reaches almost to the end of the forecoxa. The labial palpus consists of five segments, the last being a little longer than the fourth and half as long again as the second.

Thorax.—The pronotum bears a comb of eighteen or twenty teeth, and one row of long bristles, behind which row there are laterally two hairs. The mesonotum is very hairy, bearing two regular series of bristles and numerous other hairs in front of them. Near the apex of the mesonotum there are on each side two or three hair-like spines. The metanotum bears two rows of bristles and a third

* This species is named in honour of Mr. W. F. H. Rosenberg.

irregular row in front, besides a number of hairs on the back. The epimerum of the mesonotum bears a downward row of four bristles before the middle and two bristles behind. On the epimerum of the metanotum there is a row of four bristles (seldom three) in front, two bristles behind, situated below the stigma, with a short hair in between and an additional bristle between the anterior and posterior ones and on a level with the most ventral anterior one or a little farther down. There are also two or three short hairs near the posterior bristles.

Abdomen.—The abdominal tergites bear each two rows of bristles, with one or two additional bristles on the back. The second to the fifth—or, at least, the second to third—have on each side one apical spine. The seventh tergite bears two long apical bristles on each side, standing close together (Pl. XIV. fig. 74). The stigmata of tergites 2 to 7 are pear-shaped, being rounded in front and pointed behind; they stand close to the second row of bristles, the point mostly lying within that row. The first abdominal sternite is without hairs, the second bears three, and the others four bristles on each side; the sternite of the seventh segment is shallow, sinuate on each side, with the lateral lobe very broadly rounded.

Legs.—The bristles of the forecoxa are very numerous. The mid- and hindcoxae bear two bristles posteriorly at the apex, the upper being the longer. All the femora bear ventrally before the apex two hairs on the outerside and a shorter one on the innerside. Besides these hairs there are on the outerside of the forefemur two irregular rows, and on the innerside of the mid- and hindfemora two or three subventral hairs. The tibiae are provided on the outerside with three rows of hairs and a number of ventral hairs, and some additional lateral ones. There are seven pairs of heavy dorsal bristles on the hindtibia, and a single bristle between the fifth and sixth pair. The longest apical bristle of the hindtibia is a little more than half the length of the first hindtarsal segment. The tarsal segments bear on the ventral surface a number of hairs arranged in more or less regular rows. The lateral hairs of the first tarsal segments are rather numerous, the first hindtarsal one bearing eight or nine pairs on each side. The apical bristles of hindtarsal segments 1 to 3 are very heavy and short, the longest apical bristle of the second segment not reaching to the middle of the third. The fourth hindtarsal segment is more than twice as long as broad. The fifth segment of the tarsi bears on each side four bristles and a slenderer apical one, and on the ventral surface a pair close to the base (Pl. XIII. fig. 69). The measurements of the mid- and hindtarsi are:—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂ . .	28	25	16	10	19
„ ♀ . .	31	26	16	10	19
Hindtarsus ♂ . .	62	39	23	12	21
„ ♀ . .	78	41	25	13	21

Modified Segments.—The eighth abdominal tergite of the ♂ is very large, while the sternite is very much reduced. The process of the clasper (Pl. XIV. fig. 71) is triangular, and beset at the upper edge with bristles. The finger (F) is large, rounded at the apex, and constricted in the middle, being somewhat club-shaped in side view, as shown in the figure. At the hinder edge the finger is beset with a regular row of hairs, of which the lower ones are longer and closer together

than the upper ones, the uppermost hair being stouter and more spine-like than the others. The ninth sternite is boomerang-shaped, the ventral portion being mesially divided as in *T. poppei*; each half of this ventral part bears at the apex three curved spine-like bristles (Pl. XIII. fig. 68). The tenth segment is very long and narrow (Pl. XIV. fig. 71, x.t. and x.st.).

The eighth tergite of the ♀ bears a number of hairs above the stigma (Pl. XIV. fig. 74). The hairs on the lateral surface and at the apex are disposed as shown in the figure. The stylet of the anal segment is about three times as long as broad.

Length: ♂, 3·4 mm.; ♀, 4·4 mm.

We have twelve specimens of this species, collected by Mr. W. F. H. Rosenberg, as follows:—

1 ♂, Cayembe, Ecuador, 12. June, 1897, from *Metachirus opossum*.
2 ♀♀, " " " " " " " "
1 ♂, " " 21. " " " *Didelphys azarae*.
6 ♀♀, " " " " " " " "
2 ♀♀, Tharra " 31. May " " " "

30. **Ctenophthalmus pseudagyrtes** (Pl. XIV. fig. 73. 78; XV. fig. 81).

Ct. ps. Baker, *Proc. U.S. Nat. Mus.* xxvii. p. 421. t. xi. f. 7-12 (1904).

Head.—The head is practically the same as that of *Ct. bisoctodentata* (Kol.), there being three genal spines.

Thorax.—The prothorax bears a comb of eighteen teeth and one row of bristles. The mesonotum bears in front another row of shorter ones, and between this and the base a great number of more or less irregularly placed short bristles. Near the apical margin of the mesonotum there are on each side three long hair-like spines, two being dorsal and one halfway down the side. The metanotum bears two rows of bristles, besides one or two additional ones. The epimerum of the metathorax bears six bristles, one standing just beneath the stigma, three being more proximal and standing in a triangle, the fifth being placed near the ventral edge, and the sixth being somewhat distal of the stigma and about on a level with the lowest anterior bristle.

Abdomen.—The abdominal tergites bear two rows of bristles each, one bristle of the posterior row standing beneath the stigma. The first tergite bears in addition a number of hairs on the back. The first four tergites bear each a short spine at the apex. There are three apical bristles on the seventh tergite in both sexes. The upper one is about as long as the third bristle of the posterior series of this segment, the middle one is about twice (♀) or nearly three times (♂) as long as the upper one, while the ventral one is about half as long again as the upper one. The sternite of the first abdominal segment of the ♂ bears one bristle on each side; the following four sternites bear a series of four bristles with a number of shorter ones in front; on the sternite of the seventh segment there are a few more hairs. In the ♀ the sternites of segments 3 to 7 bear one to three hairs more than in the ♂.

Legs.—The mid- and hindcoxae bear on the innerside just above the trochanter one long and one very short hair, and are dilated beneath into a rounded flap, as is the case in *Ct. agyrtes* and *Ct. bisoctodentata*. The femora are devoid of hairs on the lateral surfaces, except one minute hair on the innerside of the midfemur. The mid- and hindfemora bear two subventral hairs near the apex, followed by

one very short spine-like hair, as in the species just mentioned. The tibiae and tarsi are practically the same as in *C. bisoctodentata*, but the first segment of the foretarsus is rather shorter.

Modified Segments.—The clasper (Pl. XV. fig. 81) is sinuate. The upper lobe (p^1) bears three long and several short bristles; the lower lobe (p^2), which is somewhat curved, bears one bristle. There is a fifth bristle at the bottom of the sinus. The finger (F) is long, and bears a number of fine hairs (as shown in Pl. XV. fig. 81). The manubrium (M) is about the same length as the finger, and slightly curved. The ninth sternite is hairy at the end (Pl. XIV. fig. 73).

The eighth tergite of the ♀ (Pl. XIV. fig. 78) has no bristles near the stigma. There is a row of bristles near the ventral angle. The eighth sternite (viii. st.) is bifurcate, each lobe bearing a few very short hairs.

Length: ♂, 1·9 to 2 mm.; ♀, 2·3 to 2·4 mm.

We have a large series of this species collected by Messrs. Brimley Bros. and Mr. G. F. Dippie.

8 ♀♀,	Raleigh,	New Carolina,	22	August	1901.	*Scalops*	*aquaticus.*	
7 ♂♂,	,,	,,	,,	,,	,,	,,	,,	,,
1 ♂,	,,	,,	,,	,,	,,	,,	,,	,,
1 ♀,	,,	,,	,,	,,	,,	,,	,,	,,
4 ♂♂,	,,	,,	,,	May	1901		,,	,,
7 ♀♀,	,,	,,	,,	,,	,,		,,	,,
6 ♂♂,	Red Deer,	Alberta,	Canada,	21	August	1901.	*Microtus*	*drummondi.*
4 ♀♀,	,,	,,	,,	,,	,,	,,	,,	,,
7 ♂♂,	,,	,,	,,	,,	6	April	,,	,,
11 ♀♀,	,,	,,	,,	,,	,,	,,	,,	,,
1 ♂,	,,	,,	,,	,,	28	,,	,,	,,

31. **Ctenophthalmus wenmanni** spec. nov. (Pl. XIV. fig. 75, 77, 79).

Head.—The head (Pl. XIV. fig. 79) bears a small frontal tubercle projecting from a groove. There are two rows of bristles between the antennal groove and the oral edge. The eye is vestigial. There are two genal spines, one lying on top of the other, as shown in the figure. The genal edge is produced ventrad into a triangular projection (*gp*). On the hinder part of the head there are three rows of bristles.

Thorax.—The pronotum bears a row of bristles and a comb of twelve teeth. On the mesonotum there are three rows of bristles, besides numerous short ones near the base; and there are also two dorsal subapical spines and one lateral one on each side. The metanotum bears three rows of bristles, and some additional hairs on the back. There are five bristles on the mesothoracical epimerum, two on the episternum of the metathorax, and eight or nine on the metathoracical epimerum (3. or 4.4.1.)

Abdomen.—The tergites of the abdominal segments bear two rows of bristles, and some additional ones in front on the back. The stigma, which is elongate, stands above the first bristle of the second row. The first two tergites bear one or two apical spines on each side, and the third and fourth tergites one. The seventh tergite has in the ♂ four apical spines, of which the second from the top is the longest, and in the ♀ three, the middle one being twice the length of the uppermost. The first sternite bears ventrally one bristle and several hairs in front

of it, the sternites of segments 3 to 6 having a series, with a number of shorter bristles before them, these bristles being rather more numerous in the ♀ than in the ♂. The sternite of the seventh segment bears about twelve bristles in the ♂ and twenty in the ♀. It is sinuate in the ♀ (Pl. XIV. fig. 75, vii. st.).

Legs.—The hindcoxa has a comb or small patch of short spines on the inner-side, and bears three bristles posteriorly at the apex. The mid- and hindfemora bear ventrally two bristles before the apex on the outerside and a smaller one on the innerside. The tibiae bear on the outerside two rows of bristles, the upper row standing close to the dorsal edge. There are seven pairs of dorsal bristles on the hindtibia, the third and sixth pairs being short and one of their bristles often missing. The hairs of the tarsi are numerous. The longest apical bristle of the first hindtarsal segment does not quite reach to the apex of the second. The fifth tarsal segment bears on each side four bristles besides a subapical hair, and on the ventral surface two subbasal bristles on the fore- and midtarsi. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂. .	16	13	9	7	13
„ ♀ . .	21	16	10	7	13
Hindtarsus ♂ . .	32	24	15	9	15
„ ♀ . .	38	27	15	9	15

Modified Segments.—The eighth sternite of the ♂ is large, and bears ventrally a patch of numerous hairs. The clasper (Pl. XIV. fig. 77, Cl.) is sinuate at the apex. It bears a number of hairs at and near the upper edge, and on the two lobes "p^1" and "p^2." The finger (F) is conical, with the lower corner rounded ; it bears numerous short hairs. The ninth sternite is very slender, somewhat curved upwards at the apex, bearing a row of four spines apically at the ventral edge followed by a row of four shorter ones. Farther proximal there is a row of slender hairs.

The eighth tergite of the ♀ (Pl. XIV. fig. 75) bears a number of hairs above the stigma, a row of three or four farther down, and about twelve hairs on the ventral half, besides some short ones on the inner surface (punctured in figure). The stylet is conical, being about six times as long as broad.

Length : ♂, 2·2 mm. ; ♀ 2·5 mm.

We have two examples of this species, collected by Mr. W. Wenmann :

1 ♂, British Columbia, from *Peromyscus leucopus*.

1 ♀, „ „ „ *Neotoma cinerea*.

32. **Ctenophthalmus antiquorum** spec. nov. (Pl. XIV. fig. 72 ; XV. figs. 80, 82).

This species is allied to the European *T. dasycnemus*, but is easily distinguished by the bristles of the thorax and abdomen, by the legs and the structure of the last abdominal segments.

Head.—The head is practically the same as in *T. dasycnemus*.

Thorax.—The prothorax bears two rows of bristles and a comb of eighteen teeth. There are three rows of bristles on the mesonotum, besides a number of hairs situated near the base ; the first row of bristles extends only halfway down the sides. There are on each side of the mesonotum two long slender subapical

spines. The epimerum of the metathorax bears a subbasal series of three or four bristles and a subapical series of three, the uppermost of these three standing close to the stigma. The metanotum bears three rows of bristles, besides a few additional dorsal hairs.

Abdomen.—The abdominal tergites 1 to 7 bear each two rows of bristles, and tergites 1 to 6 bear each a slender bristle-like apical spine on each side. These spines are much longer than in *T. dasycnemus*. In the ♂ there is on tergites 2 and 7 one bristle below the stigma, while on tergites 3, 4, 5, and 6, there are two below it. In the ♀ there is one bristle below the stigma on tergites 2 and 6, two bristles on tergites 3, 4, and 5, and none on 7. The seventh tergite bears two long stout apical bristles, of which the lower one is about three-quarters the length of the other, and a very minute hair above them representing a third bristle. The sternite of the second abdominal segment of the ♂ bears on each side one bristle, and of the third segment two bristles, while the sternites of segments 4 to 7 bear a patch of three long and four short bristles. In the ♀ there are similar patches on sternites 3 to 7, the hairs being rather more numerous than in the ♂; the sternite of the second segment bears, besides a ventral bristle, several small lateral ones.

Legs.—The bristles of the forecoxa are more numerous and the rows rather more regular than in *T. dasycnemus*. At the hinder edge of the mid- and hindcoxae there are three bristles, two being long and one short. On the mid- and hindfemora there is a ventral basal pair of hairs near the apex of the mid- and hindfemora, and none on the lateral surfaces. The mid- and hindtibiae resemble those of *T. dasycnemus*. They bear a row of hairs near the dorsal paired bristles, another row near the middle of the lateral surface, and a number of small hairs at and near the ventral edge. There are seven dorsal pairs of bristles on the hindtibia; the first pair is small, the second, fourth, fifth, and seventh are long, while one of the bristles of the third and sixth pairs is either reduced to a minute hair or absent. The longest dorsal apical bristle of the hindtibia is about two-thirds the length of the first hindtarsal segment. The first segment of the foretarsus is nearly as long as the foretibia is broad, being about three times as long as broad. The first segment of the midtarsus is longer than the second, being as long as the longest apical bristle of the midtibia. The first segment of the hindtarsus is three-quarters the length of the tibia. It bears eight pairs of hairs on the anterior edge and seven on the hinder edge. The second segment bears six and five pairs on their respective edges. The fourth segment is two-thirds the length of the third; the fifth (exclusive of claw) is a very little shorter than the third.

Modified Segments.—The sexual apparatus is very different from that of *T. dasycnemus*. The plate of the penis is very broad, being irregularly ovate. The clasper is large and conical (Pl. XV. fig. 82, Cl.), bearing two long bristles at the apex and a few short ones. The movable finger (F) is very large. It bears one moderately long bristle near the apex, accompanied by a few short ones; there are, besides, two extremely small spines at the apex and a number of small hairs along the dorsal edge. The ninth sternite is long and slender (Pl. XIV. fig. 72), bearing some hairs at the apex.

The eighth tergite of the ♀ (Pl. XV. fig. 80) bears one hair above the stigma, a long one below the stigma, and a number of hairs on the ventral third, as shown in the figure. The apical margin is rounded below the middle and then sinuate.

Length: ♂, 2·4 mm.; ♀, 3 mm.

We have four specimens of this species collected by Dr. Ihering:
3 ♂♂, Tigneti Zech, Brazil, 1897, *Didelphys aurita*.
1 ♀, " " " " "

33. **Chaetopsylla mikado** spec. nov. (Pl. XIV. fig. 76).

Head.—The anterior part of the head bears a series of four bristles in front of and close to the eye, and obliquely above the eye a row of four short hairs, of which the two lower ones are stout, while the other two are thin. On the hinder part of the head there are three bristles behind the base of the antennal groove, followed by another row of three. The bristles of the subapical row stand rather close together, there being about nine on each side. There are no short hairs above the antennal groove except at the apex. The bristles of the second antennal segment are shorter than the club. The labial palpi reach to the end of the forecoxa, and consist of six segments, of which the last is about twice the length of the penultimate one.

Thorax.—The pronotum bears one row of bristles. On the mesonotum there are two rows of bristles, with a few additional hairs anteriorly on the back, and there are also four long slender subapical spines on each side. The metanotum, which is much longer than the mesonotum, bears two rows of bristles and an abbreviated row in front of them on the back. The epimerum of the metathorax bears two vertical rows of bristles, the first row containing nine or ten, the second six.

Abdomen.—The first and second abdominal tergites bear two rows of bristles, with one or two additional ones. On the five following tergites both rows are very much reduced, the anterior row consisting of three (occasionally two) bristles on each side, standing above the stigma, and the posterior row consisting of six bristles on the third tergite and of four or three on the other tergites. On the second tergite there is below the stigma a patch of seven or eight bristles arranged in two rows corresponding to the rows of bristles situated farther towards the back. The first sternite bears a ventral bristle and four to six small hairs near the upper edge. The other sternites have a subapical series of four to six bristles, preceded by some short hairs on sternites 3 to 6.

Legs.—The bristles of the forecoxa are very much shorter than those of *C. trichosa*. There are two slender bristles posteriorly at the apex of the hindcoxa. The midfemur has on the outerside a series of eight bristles, and on the innerside two ventral subapical ones. On the hindfemur there are on the outerside twelve to fifteen bristles arranged in a row, and on the innerside four or five situated in the posterior half. The tibiae bear one somewhat irregular row of hairs on the outerside, and a number of ventral and subventral hairs, which are very much shorter and thinner. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus . .	24	22	15	10	25
Hindtarsus . .	38	27	15	10	25

Modified Segments.—The eighth tergite (Pl. XIV. fig. 76) bears about five hairs above the stigma, and from the stigma downwards a regular series. At

the apical margin there is a row of about eight, gradually decreasing in length, the upper one being the longest, and towards the base there are three long ones preceded by two short ones. On the innerside the tergite bears a great number of hairs at the apex. The eighth sternite bears a few bristles at the apex (Pl. XIV. fig. 76, viii. st.).

Length, 3·7 mm. (measured on the slide, the abdomen being rather extended).

This species agrees with *C. trichosa* in many respects, but differs in the details given in the description.

Our examples of this species are as follows :—

2 ♀♀, Japan, *Mustela itatsi* (Pryer).

34. **Ctenopsyllus granti** * spec. nov. (Pl. XV. fig. 84. 87 ; XVII. fig. 91).

Head.—The eye is situated near the upper end of the antennal groove. The anterior part of the head inclines backwards as in *C. musculi* (Pl. XV. fig. 84, ♂). Parallel with the frontal edge there is a row of bristles, and halfway to the antennal groove a vertical row of five spines, of which the third is very long and pointed. On the posterior part there are a number of very heavy bristles on the back, one above the antennal groove and one near the apex being especially long. This last bristle is the longest. It belongs to the subapical row, and stands widely apart from the next long bristle of this row. Along the antennal groove there is a row of seven (♂) or four (♀) hairs. The hairs on the second antennal segment are short. The rostrum is very little longer than the maxillary palpus. The labial palpus consists of four segments, of which the last is about twice as long as broad. The fourth segment of the maxillary palpus is as long as the second.

Thorax.—The pronotum is much longer above than at the side, being produced backwards above. It bears a comb of thirteen long teeth in the ♂ and of seventeen in the ♀. The teeth do not stand close together. In front of the comb there is a row of four bristles with minute hairs in between, there being on the back one more bristle before the middle. The mesonotum bears two rows of bristles and a few hairs on the back. There is also one short subapical spine on each side near the ventral edge. The metanotum is much longer than the mesonotum, and bears two rows of bristles. There are two short stout apical spines on each side of the metanotum and the first and second abdominal tergites, and one spine on the third tergite. The epimerum of the metathorax is strongly rounded in the middle of the apical margin, and bears four bristles (2.2).

Abdomen.—The abdominal tergites bear one row of bristles (about five on each side), the first tergite possessing in addition a few hairs before the middle. The stigma is placed within this row, and stands either above or below the first bristle present. The seventh tergite bears one long bristle, accompanied on each side by a short hair. The first five sternites bear in the ♂ one bristle, in the ♀ two, with the exception of the first, which has only one. On the seventh sternite there are two bristles in the ♂ and three in the ♀. This sternite is deeply sinuate in the ♀ (Pl. XVI. fig. 91, vii. st.).

Legs.—The bristles on the coxae are few in number. The hindcoxa bears on the innerside four or five short spines and posteriorly at the apex two bristles. The mid- and hindfemora have on the outerside two subapical ventral hairs, and on

* This species is named in honour of Mr. C. J. B. Grant.

the innerside one. There is one regular row of long slender bristles on the outerside of the tibiae. The hindtibia bears at the dorsal edge nine bristles of nearly the same length, the second, sixth, and eighth being paired with a long bristle on the innerside of the dorsal edge. The second long bristle (standing at the apical third) is longer than the subapical one, and more than twice as long as the tibia is broad. The tarsi are slender, and their bristles are numerous. The first hindtarsal segment is one-fourth shorter than the hindtibia, being as long as the second and third segments together. There is one stout spine at the apex of the tarsal segments, the longer of the second segment not reaching to the apex of the third. There are four bristles on each side of the fifth segment, besides a subapical hair. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus ♂ . .	17	13	9	6	11
„ ♀ . .	21	16	10	6	13
Hindtarsus ♂ . .	35	19	12	7	11
„ ♀ . .	40	24	13	8	13

Modified Segments.—The eighth tergite of the ♂ is small, while the sternite is large, bearing ventrally two bristles on each side. The ninth sternite is slender, slightly curved, and provided with a few hairs at the apex (Pl. XV. fig. 87). The clasper is long (Pl. XV. fig. 87, Cl.). It bears two bristles at the upper edge and a longer one at the apex. The finger (F) is triangular, hardly projecting beyond the clasper. The tenth tergite bears scarcely any hairs, except a long one standing just behind the sensory plate.

The eighth tergite of the ♀ (Pl. XVI. fig. 91) has no hairs above the stigma. There is one long bristle below the stigma and a number of others farther down, as shown in the figure. The eighth sternite is small. The stylet is cylindrical, being about four times as long as basally broad, equalling the first midtarsal segment in length.

Length : ♂, 1·6 mm. ; ♀, 2·5 mm.

We have three examples of this species, collected by Mr. C. J. B. Grant, as follows :—

1 ♂ and 2 ♀♀, Deelfontein, Cape Colony, from *Macro proboscideras*.

The present species and the following one are placed in the genus *Ctenopsyllus* in spite of the presence of a well-developed eye, as these insects agree fairly well with *C. musculi* and *C. pectiniceps*. The position of the eye near the upper end of the antennal groove and the position of the genal spines halfway between the eye and the frontal edge of the head is peculiar to the two new species described here. The position of the comb of genal spines is suggestive of the anterior comb found in *Stephanocircus*.

35. **Ctenopsyllus aganippes** spec. nov. (Pl. XV. fig. 83 ; XVI. fig. 90).

Head.—The front of the head (Pl. XV. fig. 83) is much longer than in *C. grauti*. The comb consists of ten spines which gradually become longer from the top one to the eighth and then decrease again. The frontal tubercle is rather more distinct than in *C. grauti*. The eye stands rather closer to the antennal groove. The

hinder part of the head bears a subapical series of five bristles on each side, and between the second bristle and the antennal groove three more bristles, of which the second is the longest. There are in addition a number of bristles on the back and six short ones along the antennal groove. The bristles on the second segment of the antenna are hardly the length of the club. The maxillary palpus is shorter than the rostrum, the latter not reaching to the apex of the anterior coxa. The labial palpus consists of four segments, of which the last is the longest, being nearly four times as long as broad.

Thorax.—The prothorax bears two rows of five bristles on each side. The comb consists of fifteen teeth. The mesonotum and metanotum are about equal in length, and bear each two rows of bristles. On the mesonotum there is on each side a dorsal subapical hair-like spine, and near the ventral angle a short spine-like bristle. The metanotum and the first four abdominal tergites bear on each side two short stout apical spines, and the fifth tergite one spine. The epimerum of the metathorax bears six bristles (3.3), the ventral one of the posterior row being about twice the length of the other.

Abdomen.—The abdominal tergites bear one row of bristles, the first tergite having in addition one or two hairs in front of it. The number of bristles on the middle segments is six or seven on each side. The stigma stands above the second bristle on the middle segments. The seventh tergite bears one rather short apical bristle, accompanied on each side by a minute hair. The first abdominal sternite bears one bristle, the second two, the next four sternites three on each side, the sternite of the eighth segment, which sternite is large, a row of four or five bristles.

Legs.—The bristles on the forecoxa are numerous and heavy, while those on the mid- and hindcoxae are few in number. The hindcoxa bears a few hairs on the innerside and two bristles posteriorly at the apex. The mid- and hindfemora bear on the outerside a curved vertical row of four bristles, the upper one being dorsal, the others ventral. There is one regular row of bristles on the outer surface of the tibiae. The heavy bristles situated on the outerside of the dorsal edge of the tibiae are all practically of the same length. There are eleven or twelve in number. On the innerside of the dorsal edge there are three long bristles. The bristles on the tarsi are numerous, but all short. The first hindtarsal segment is one-third shorter than the hindtibia. The fifth tarsal segment bears four bristles on each side, besides a subapical hair, and is less than twice as long as broad. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus. . .	16	12	8	5	11
Hindtarsus . .	29	15	9	5	11

Modified Segments.—The clasper (Pl. XVI. fig. 90) is shorter than in *C. granti*. It bears a stout bristle at the upper edge and another below the apex, besides some slender hairs. The finger (f) is very small. The ninth sternite is elongate-triangular, and bears a few hairs at the apex. The tenth tergite is devoid of hairs.

Length, 2·2 mm.

We have one ♂ specimen of this species collected by Mr. C. J. B. Grant, at Deelfontein, Cape Colony, April 8th, 1902, from a species of Mus.

36. **Ctenopsyllus brooksi** * spec. nov. (Pl. XV. fig. 86, 88; XVI. fig. 89).

Head.—The front of the head is vertical (Pl. XV. fig. 86, ♂), being much more rounded in the ♀ than in the ♂. There is an oblique row of six long bristles, and a single long bristle below this row at the antennal groove. There are, besides, numerous short hairs scattered over the lateral surface. There are five genal spines, of which the second is the longest. Between the second and third spine, counted from below, there projects the sharp hinder corner of the gena. The hinder part of the head bears two oblique rows of bristles and a subapical row. The club of the antenna bears numerous minute hairs in the ♂.

Thorax.—The pronotum has a comb of about fifty to fifty-six spines in the ♂, and thirty to forty in the ♀. There are two rows of bristles, besides numerous additional hairs situated in front and on the back. The mesonotum is very hairy in front and on the back. There are about eight long bristles in the postmedian row. The mesonotum bears about five long subapical spines. On the episternum and epimerum of the mesothorax there are together about sixteen bristles, besides some small hairs. On the metanotum there are three rows of bristles, the first being irregular, and an interrupted row between the first and second, besides some additional hairs in front. The metanotum bears, moreover, three long hair-like spines dorsally on each side near the apex. On the epimerum of the metathorax there are fourteen to eighteen bristles, while the episternum bears two very long bristles, besides three or four shorter ones.

Abdomen.—The first abdominal tergite bears four rows of bristles and some additional hairs in between. On the second tergite there are two rows, and several hairs laterally in front. On the other tergites there are two rows, the anterior row being generally incomplete and mostly preceded by some hairs representing a third row. The first tergite bears on each side two to four apical spines, the second four, the third two or three, the fourth one or two, and the fifth none or one. The seventh tergite has in the ♂ one long stout apical bristle, and in the ♀ two on each side. In front of these bristles there are several hairs, in addition to the hairs of the postmedian row, the additional ones being especially numerous in the ♂. The first abdominal sternite bears a ventral bristle and some extremely short hairs on the side. In the ♂ the sternites of segments 3 to 7 bear a row of bristles, with one or two bristles in front, there being four or five bristles in the row of the anterior sternites, the number increasing gradually to eight or nine as we proceed backwards. The number of these bristles is larger in the ♀, the bristles in front of the row being especially numerous. The seventh sternite of the ♀, which is broadly sinuate (Pl. XVI. fig. 89, vii. st.) bears as many as twenty-eight bristles.

Legs.—The hindcoxa has on the inner surface a regular comb of nine or ten spines, and bears posteriorly at the apex two bristles. The mid- and hindtibiae are very hairy, bearing on the outerside two lateral rows of hairs, besides a number of ventral hairs. The dorsal bristles are very long and stout, there being eight pairs on the hindtibia. The longest dorsal apical bristle of the midtibia reaches beyond the apex of the first tarsal segment, while that of the hindtibia does not quite extend to the apex of that segment. The lateral bristles of the tarsi are numerous and long, the short hairs on the ventral and dorsal surfaces being also

* This species is named in honour of Mr. Allan Brooks.

numerous. The longest bristle of the second hindtarsal segment reaches to the apex of the third. The first hindtarsal segment is one-eighth shorter than the hindtibia. The fifth segment bears five bristles on each side. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment
Midtarsus . .	36	29	19	12	24
Hindtarsus . .	67	40	26	15	25

Modified Segments.—The eighth sternite of the ♂ is large, and bears ventrally before the middle on each side five to eight bristles. The eighth tergite is small. The clasper (Pl. XV. fig. 88, Cl.) is large, oblong, bearing a row of bristles at the apical edge, and several longer ones dorsally near the base. On the innerside the clasper bears a patch of short slender hairs. The finger (F) is elongate half-moon-shaped, bearing a row of slender hairs at the distal edge and some very short ones on the side. The ninth sternite (Pl. XVI. fig. 88, ix. st.) is very peculiar, being curved upwards at the end, this apical portion bearing at the distal edge long thin hairs. The tenth segment is conical, being more than twice as long as broad, the sternite bearing three long bristles at the apex.

The eighth tergite of the ♀ (Pl. XVI. fig. 89) bears one hair above the stigma and another small one below it. The bristles on the ventral half are very numerous, as shown in the figure. The stylet is slightly bottle-shaped, being about three times as long as broad.

Length : ♂ and ♀, 3·6 mm.

We have fifteen specimens of this species, collected by Messrs. Dippie and Brooks, as follows :—

* 2 ♂♂, Calgary, Alberta, Canada, 18. August, 1901. *Putorius richardsoni.*
* 3 ♀♀, " " " " " " " "
* 3 ♀♀, Neresall, British Columbia, November 1900. " "
* 1 ♂, Calgary, Alberta, Canada, 24. August, 1900. " *longicaudatus.*
* 2 ♀♀, " " " " " " " "
* 1 ♂, type, " " " 27. " " " "
* 1 ♀, " " " " " " " "
† 1 ♂, Mabel Lake, British Columbia, 2. May, 1902. *Mustela americana.*
† 1 ♀, " " " " " " " " "

37. **Ctenopsyllus hygini** spec. nov. (Pl. XV. fig. 85 ; XVI. fig. 93, 94).

Head.—The head of this species is similar to that of *C. brooksi*. The bristles on the posterior part are, however, less numerous.

Thorax.—The prothorax bears one row of bristles and a comb of twenty-four (♀) or twenty-eight (♂) spines. On the mesonotum there is one row of bristles, and on the metanotum two rows. The epimerum and episternum of the mesothorax bear together four bristles. The episternum of the metathorax bears one long

* Collected by Mr. G. F. Dippie, of Calgary, Alberta, Canada.
† " " Mr. Allan Brooks.

bristle, the epimerum having four bristles, two short ones near the stigma, and two longer ones farther back.

Abdomen.—The first abdominal tergite bears two rows of bristles, the other tergites one, occasionally with an additional bristle indicating the first row. There are only four or five bristles on each side on the middle segments, the stigma standing above the first bristle. At the apex of the seventh tergite there is one long bristle in the ♂ and two in the ♀. There are on each side of the first tergite two or three apical spines, on the second two or three, on the third two, on the fourth none or one, the apical edges being, besides, minutely serrate (Pl. XVI. fig. 94). The first sternite bears one ventral bristle on each side. The sternites of segments 2 to 7 bear two bristles in the ♂, while the ♀ bears two on the second sternite, three on the following three segments, and four on the seventh segment. The seventh sternite is bisinuate in the ♀ (Pl. XVI. fig. 93, vii. st.).

Legs.—The hindcoxa has a comb of five to seven spines on the innerside, rather close to the apex, and bears posteriorly at the apex two bristles, the second being small. The tibiae bear one row of bristles on the outerside, the row consisting of seven on the hindtibia. There are seven pairs of bristles on the back of the hindtibia. The bristles on the tarsi are somewhat less numerous than in *C. brooksi* and shorter. The measurements of the tarsi are as follows :—

	First segment.	Second segment.	Third segment.	Fourth segment.	Fifth segment.
Midtarsus. . .	18	15	10	7	15
Hindtarsus . .	39	23	15	9	17

Modified Segments.—The eighth sternite of the ♂, which is enlarged, bears two bristles on each side. The clasper is similar to that of *C. brooksi*, but the hairs at the apex are less numerous ; the long bristles near the dorsal edge towards the base are absent ; there are near the middle of the dorsal edge two bristles which are not found in *C. brooksi*, and the fine hairs on the innerside of the clasper are much less numerous than in *C. brooksi*. The manubrium is much slenderer than in *C. brooksi*, and the finger is longer and much narrower, being slightly club-shaped. The finger bears one rather long bristle at the distal edge below the apex, two more hairs farther down, and a series of four near the base, there being also some small hairs on the outer side at and near the apex. The ninth sternite (Pl. XV. fig. 85) is only slightly curved upwards at the end, bearing a number of short hairs along the ventral edge and a row of minute ones at the dorsal edge. The tenth segment is broader than in *C. brooksi*, and the bristles at the apex of the sternite are shorter.

The eighth tergite of the ♀ (Pl. XVI. fig. 93) has no bristles near the stigma. There is a patch of six bristles below the apical projection, and there are two more bristles situated farther down and nearer the base. The stylet is slender and long, being about six times as long as broad.

Length : ♂, 2·4 mm. ; ♀, 2·8 mm.

We have eleven specimens of this species, as follows :—

4 ♂♂, Red Deer, Alberta, Canada, March 10th, 1901, from *Putorius richardsoni*.

7 ♀♀, " " " " " " " "

38. **Ctenopsyllus hyrtaci** spec. nov. (Pl. XVI. fig. 92. 95).

This species is closely allied to *C. hygini*, but differs in the following characters :

Thorax.—The ♂ has thirty-four spines in the comb of the prothorax.

Legs.—The mid- and hindtibiae have, in addition to the regular lateral row of eight bristles, two or three more bristles situated on the ventral side of that row.

Modified Segments.—The apex of the clasper (Pl. XVI. fig. 92) is strongly rounded, bearing a row of hairs. There are no bristles in the proximal three-quarters of the dorsal edge, while there are several short hairs on the outer surface. The patch of minute hairs situated on the outer surface is indicated in the figure by dots. The finger (f) resembles somewhat that of *C. brooksi*, but is widest near the apex. The ninth sternite is, however, very different, being gently curved and bearing a much smaller number of hairs, as shown in the figure. The tenth tergite has one moderately long bristle at the apex, and the sternite two much longer ones.

The eighth tergite of the ♀ (Pl. XVI. fig. 95) bears four bristles ventrally near the base, and the seventh sternite is shallowly emarginate.

Length, 2·4 mm.

We have four specimens of this species, as follows :—

1 ♂, Cariboo, British Columbia, March 31st, 1901, from *Putorius energumenos*, collected by Allan Brooks.

2 ♂ ♂, British Columbia, from *Sorex obscurus*, collected by W. Wenmann.

1 ♀, " " " " " " " "

39. **Ceratopsylla palposus** spec. nov.

Head.—The anterior flap of the head is not quite three times as long as broad at the base. The second flap is widest beyond the middle, being apically more strongly rounded in front than behind. The hairs of the frontal row are small, the posterior ones being the longest. From the middle of the antennal groove forwards there is a row of three or four bristles, and beneath this a row of very minute hairs, besides the long bristle situated at the antennal groove below the middle. On the hinder part of the head there are the following hairs : three or four very minute ones along the antennal groove ; three or four somewhat larger ones ventrally at the apical margin ; above these a very long subapical bristle, followed upwards by an apical row of rather short bristles ; between the long bristle and the base of the antennal groove there are three bristles, one in the middle and two more forward. On the back of the posterior part of the head there are a number of minute punctures bearing excessively short hairs, hardly visible as such.

Thorax.—The pronotum bears two rows of bristles and a comb of twenty-two teeth. The mesonotum, which is much longer than the metanotum, bears four more or less irregular rows of bristles, besides a basal row of short spine-like ones. There are laterally before the apex two slender spines. The mesothoracical episternum and epimerum bear together eleven to thirteen bristles, of which three stand above the stigma. The metathorax has three rows of bristles, the first and third row being incomplete, and bears on each side three short apical spines. On the epimerum of the metathorax there are seven bristles (2.2.3), of which the first and

third ventral ones are sometimes absent. The last three stand at the apical margin, the uppermost being the longest.

Abdomen.—The first abdominal tergite bears two rows of bristles, with some additional ones on the back. All the other tergites bear only one row, except the second, where a few hairs indicate the anterior row. On the middle segments the row consists of five bristles, one standing beneath the stigma. On tergite 1 there are two or three short apical spines on each side, on tergite 2 two, and on the 3rd tergite one. On the seventh tergite there is one long bristle accompanied on each side by a minute hair. The basal sternite bears one ventral bristle on each side, the second one or two, the three following three, and that of the seventh segment five to eight.

Legs.—The bristles on the mid- and hindcoxae are very few in number, there being about four or five on the outer surface, besides those standing at the anterior and apical edges. The mid- and hindfemora bear a pair of bristles in front of the basal ventral sinus, and another pair behind it. There are no bristles on the outer surface except two or three subapical ones, of which one or two are ventral and one lateral. The mid- and hindtibiae bear on the innerside three or four short hairs, and on the outerside one regular row of bristles. At the dorsal edge of the hindtibia five bristles are prolonged, the first, third, and fifth being much longer than the second and fourth. The first hindtarsal segment bears seven or eight pairs of bristles on one side and six on the other. The fourth segment of the hindtarsus is triangular, being about half as long again as broad.

Modified Segments.—The eighth tergite bears two long bristles below the stigma, with or without a shorter one in front, seven along the apical edge, of which two or three are short and stout, and five or six between the apex and middle.

Length : ♀, 2·5 mm.

We have two ♀♀ of this species from Cowicham Demeans, British Columbia, August 4th, 1903, from "Brown Bat," collected by Mr. Allan Brooks.

This species somewhat resembles *Ceratopsylla martialis*, described in *Nov. Zool.* x. p. 322 (1903), from Rénnion, but differs in being much less hairy. The only other *Ceratopsylla* known from North America is *Ceratopsylla insignis*, l.c. p. 319, an entirely different species.

A NEW SUBSPECIES OF *TROIDES VICTORIAE*.

By THE HON. WALTER ROTHSCHILD, Ph.D.

Troides victoriae rubianus subsp. nov.

♂. The subapical patch on the *upperside* of the forewing is very much reduced and of the same colour as the basal area. It consists of three or four spots. The uppermost spot SC^3—SC^4, which is long in all the other subspecies, has only a length of 5 mm.; the second spot, situated in the subcostal fork, is triangular and 10 to 12 mm. long; the third spot is irregularly trapeziform, 10 to 12 mm. long in front and about 6 mm. long behind; the fourth spot, which is present only in the *type*-specimen, is rounded and about 3 mm. wide. ——The hindwing, on the *upperside*, is without golden submarginal spots: the green area is not washed with golden in the submarginal region, and is more sharply defined, not being quite so far extended towards the distal margin as in the other forms, the black distal border being broader.

On the *underside* the golden green submarginal patches of the forewing are more reduced than in the other forms of *victoriae*, the costal margin of the hindwing is more extended black, and the black admarginal spots are rather larger; the base of the cell of the forewing is bluish green.

♀. Similar to the subspecies from Guadalcanar. There are three discal spots R^3—(SM^1) on the *upperside* of the forewing; the third spot is triangular, pointing backwards and being very often connected with the subbasal streak situated along SM^2; the last submarginal spot is large; the discal spots situated distally of the apex of the cell are on the whole larger than in *viet. victoriae*. The first submarginal spot of the hindwing, on the *upperside*, is small, often shaded over with black; the discal spots R^3—SM^2 are large, the spot M^1—M^2 usually extending, on the *underside*, to the submarginal spot either at M^2 or also at M^1.

Hab. Rendova, Rubiana Group, Solomon Islands, February 1904 (A. S. Meek).

Two ♂♂ and a long series of ♀♀.

The ♂ is more different from *viet. victoriae* than are the ♂♂ of the other subspecies.

INDEX.

abbreviata (Pterocypha), 73.
abbuna (Abisara), 318.
Abisara, 317, 318, 354, 455
abnormipalpis (Ischnopteris), 116-18, 558.
abnormis (Huphina), 312.
Abraxas, 543, 544.
absentimacula (Hedyle), 499.
— (Phellinodes), 499.
absolon (Enryphene), 352.
abyssinica (Antanartia), 348.
— (Halcyon), 198.
acaciaria (Chogada), 474.
Acanthis, 459.
Acatapaustus, 415, 416.
Acco, 418.
acerbata (Anapalta), 43.
acheloia (Byblia), 350.
achine (Teracolus), 358.
Acidalia, 515, 563.
acidalioides (Tephroclystia), 535.
Acleros, 362.
Acorynus, 232, 254.
aculeatus (Tachyglossus), 229.
acuminatus (Heteropygia), 187.
— (Totanus), 187.
acutangula (Psaliodes), 61.
Acraea, 325-9, 346, 348.
acraea (Telipna), 335.
Acrobates, 626.
Acrotomodes, 564.
actia (Precis), 348.
Actitis, 431.
acutipennis (Lomographa), 92.
ada (Gymnognathus), 243, 244.
aderna (Spindasis), 354.
adherbal (Lycaenesthes), 356.
admirabilis (Callipia), 538.
adulta (Anisoperas), 129.
aemula (Herbita), 140.
aenea (Sangala), 98.
aequalis (Argyrolepidia), 446.
— (Corrhecerus), 271.
— (Engoa), 427.
aequatorialis (Cyclyrius), 356.
aeretincta (Tachyphyle), 507.
aerruginata (Hammaptera), 51.
Aeschropteryx, 128, 564.
aethiopica (Atella), 348.
aethiopissa (Nipteria), 549.
aethiops (Salamis), 348.
affinis (Caprimulgus), 202.
— (Gymnognathus), 247.
— (Microgonia), 574.
— (Polyptychus), 435.
africanus (Equus), 593, 595, 596.
aganippes (Ctenopsyllus), 647.
Agatha, 463.
agatha (Neptis), 330, 350.
agathina (Mylothris), 356.
agenoris (Malacopsylla), 606.
agilis (Macropus), 225.
agliata (Microgonia), 158.
— (Oxydia), 157.
Agraptochlora, 463, 464.
agrippinae (Ceratophyllus), 634, 636.
agyrtes (Ctenophthalmus), 641.
ahalae (Ceratophyllus), 631.
Ahodon, 617
ajax (Euparius), 303, 304.
alba (Motacilla), 431.
— (Pinacopteryx), 358.
— (Porthesia), 398.
albata (Ophthalmodes), 490.
— (Oxylides), 354.
alberti (Delias), 454.
albertisi (Delias), 312.
albibasis (Devarodes), 96.
albiceps (Euparius), 307.
— (Melochlora), 504.
albicornis (Kedestes), 362.
albida (Heterolenca), 101.
— (Ypthima), 344.
albidulata (Psaliodes), 62.
albifascia (Phellinodes), 499.
albifrons (Lomographa), 92.
— (Stenoplastis), 501.
albiguttata (Ischnopteris), 117.
albilinea (Temnora), 436.
albimacula (Melanoscia), 112.
— (Rhodochlora), 506.
albimaculata (Acraea), 329, 346.
— (Amauris), 344.
albinata (Argyrotome), 93.
albinodosa (Diactinia), 46.
albinus (Anthribus), 296.
— (Limnas), 344.

albipennis (Ischnopteris), 556.
albiplaga (Abisara), 317.
albipupillata (Anisodes), 28.
albirivata (Eucymatoge), 528.
albirostris (Tropideres), 254.
albirupta (Ischnopteris), 558.
albisecta (Azelina), 566.
albistriga (Hypolepis), 54.
albitumida (Asestra), 132.
albivener (Ahodon), 617.
albiventris (Pisorhina), 190, 191.
albociliata (Euproctis), 401.
albocinctus (Ptilinopus), 179.
alboguttatus (Physopterus), 231.
albomaculata (Chionaema), 422.
— (Nervicompressa), 391. 392.
albovittata (Neodezia), 541.
— (Odezia), 541.
Alcedo, 195, 196-8.
alciope (Acraea), 348.
alcippina (Acraea), 346.
alcippoides (Hypolimnas), 348.
— (Limnas), 344.
alcippus (Limnas), 344.
Aleis, 475, 555.
Alcyone, 196, 197.
Alex, 484.
alfredi (Pisorhina), 191.
algeriensis (Lanius), 434.
alicia (Acraea), 346.
alladinis (Ceratophyllus), 632, 634.
Allandrus, 242.
alligator (Ptilinopus), 179.
alligatoris (Macropus), 224.
alma (Gymnognathus), 247.
Alopecoenas, 175, 185.
alternans (Phlocobius), 235.
— (Piezocorynus), 279, 281.
alternata (Hemioplisis), 5.
— (Saccoploca), 497.
althoffi (Acraea), 346.
Alydda, 62.
amabilis (Dicallaneura), 318.
Amadina, 218.
amanga (Axiocerses), 354.
amantum (Erythrospiza), 430.
amarah (Lycaenesthes), 354.
amaranta (Diestogyna), 352.
amatus (Teracolus), 358.
Amaurinia, 81, 525, 526.
Amauris, 324, 325, 344.
Amaurornis, 181, 185.
ambarilla (Cambogia), 82.
ambusta (Aphilopota), 472.
— (Certima), 568.
Ameria, 81.
americana (Mustela), 650.
amoena (Byrsia), 413.
Amphoraceras, 427, 428.
ampla (Prasinocyma), 465.
amplata (Perizoma), 59.
amplificata (Heterusia), 89.
amplipennis (Anomalipus), 450.
anacardii (Salamis), 452.
anagogaria (Petelia), 122.
analiplaga (Psaliodes), 522.
analis (Anthribus), 298.
Anapalta, 43-5, 546.
Anas, 188, 431.
Anauxesis, 365.
ancedon (Acraea), 326.
anchises (Rhopalocampta), 362.
ancora (Gymnognathus), 242, 247, 248.
— (Ormiscus), 287.
andicola (Nemotrichus), 269.
androcli (Malacopsylla), 604, 607.
andromedae (Geocichla), 209.
— (Myiothera), 209.
Andronymus, 362.
aneiteanus (Pteropus), 597.
anglica (Loxia), 460.
angolanus (Papilio), 360.
anguinata (Cambogia), 82.
angulata (Amaurinia), 525.
— (Enrytela), 350.
angusta (Apiciopsis), 131.
angustipennis (Oreta), 461.
angulatus (Ormiscus), 290.
angustistriga (Cyllopoda), 15.
Anisodes, 27–32, 161, 507, 511.
Anisolasia, 46, 526.
Anisoperas, 129, 564, 565.
annularis (Anisodes), 508.
annulifer (Ormiscus), 287.
annulipes (Monocleus), 256.
Anomalipus, 449–51.
ansorgei (Asterope), 350.
— (Euxanthe), 352.
— (Kallima), 350.
— (Melanitis), 451.
— (Mycalesis), 344.
— (Pais), 445.
— (Phragmatobia), 442.
— (Salamis), 452.
— (Sphingonaepiopsis), 438.
antalus (Virachola), 354.
antanossa (Zizera), 356.
Antanartia, 348.
antennatus (Gynandrocerus), 302.
anthedon (Hypolimnas), 350.
Anthela, 403.
Anthrenosoma, 281, 282, 283.
Anthribus, 235, 236, 239, 296-300.
Anthus, 217, 431.
Anticlea, 60.
anticlea (Charaxes), 352.
antifaunus (Hypolycaena), 354.
antigone (Teracolus), 358.
antilopinus (Macropus), 224.
antinorii (Uranthauma), 356.

antiopata (Cambogia), 82.
antiphates (Sangala), 98.
anvatara (Byblia), 350.
Apatenia, 254.
Apaturina, 452.
Apaturopsis, 350.
apecida (Acraea), 346.
Aphilopota, 472.
Aphnaeus, 354.
Aphneus, 338.
apicalis (Euparius), 303, 307.
— (Goniocloeus), 262.
Apicia, 130, 134, 152, 153, 566.
apicilineata (Heteroleuca), 545.
— (Nipteria), 545, 546.
Apiciopsis, 131.
apicta (Hammaptera), 51.
apidania (Microgonia), 575.
Aplodes, 19, 24, 25.
Aplonis, 221.
Aplorama, 91.
Apodroma, 538.
Apolecta, 236, 237.
approbata (Craspedia), 35.
— (Spargania), 77.
appropriata (Phrygionis), 92.
aprieata (Coenocalpe), 46.
Apus, 431.
aquaticus (Scalops), 642.
arana (Erilophodes), 582.
arboreus (Anthus), 431.
— (Passer), 458.
archesia (Proeis), 348.
Archichlora, 465.
arcillata (Anticlea), 60.
aretiata (Eudule), 541.
arctitorquis (Pachycephala), 212, 213.
Ardea, 188, 431.
Arenaria, 186.
arenaria (Planema), 348.
aretaria (Caripeta), 135.
argentistriga (Cophocerotis), 539, 541
argia (Luceronia), 358.
Arguda, 395.
argus (Eurostopus), 202.
Argyrolepidia, 446.
Argyrotome, 93.
Arhodia, 485.
ariel (Petaurus), 227.
Arima, 517.
armata (Nessiara), 233, 234.
armatus (Goniocloeus), 260, 264.
— (Nemotrichus), 267, 270.
arnhemensis (Trichosurus), 227.
aroa (Asura), 426.
— (Ceryx), 382.
— (Chionaema), 423.
— (Celama), 414.
— (Cleolosia), 424.
— (Cycethra), 393.
aroa (Diversosexus), 403.
— (Euproctis), 401.
— (Garudinistis), 422.
— (Gunda), 371.
— (Imaus), 409.
— (Lambula), 416.
— (Lasioceros), 381.
— (Macaduma), 421.
— (Narosa), 386.
— (Nervicompressa), 392.
— (Opsirhina), 395.
— (Paraceryx), 383.
— (Parclodina), 368.
— (Porthesia), 397.
— (Scaptesyle), 422.
— (Schistophleps), 426.
— (Scoliacma), 416.
aroae (Delias), 314.
— (Pieris), 314.
aroensis (Boarmia), 322.
— (Bordeta), 319.
— (Milionia), 321.
arruana (Ornithoptera), 311.
Artamus, 221.
artaxia (Precis), 348.
Artitropa, 362.
asboloplintha (Acraea), 346.
Asellodes, 39.
asellus (Phloeobins), 239.
Asemorhinus, 234.
Asestra, 132.
asidioides (Anomalipus), 451.
Asinus, 584, 591, 593.
asinus (Equus), 584, 585, 586, 593, 595.
Aslauga, 354.
asmura (Drucia), 20.
asopus (Catochrysops), 340.
asper (Trachytropis), 266.
aspera (Anisodes), 30, 31.
aspericollis (Apolecta), 236.
Asterope, 350.
asterope (Ipthima), 362.
— (Ypthima), 344.
astrophela (Opodiphthera), 601.
Astur, 189, 190.
Astyochia, 102, 545.
astyochioides (Nipteria), 102.
Asura, 424-6.
ategna (Hydatoscia), 101.
Atella, 348.
Aterica, 350.
atomaria (Craspedia), 35.
atrata (Anauxesis), 365.
atridiscata (Craspedia), 33.
— (Haemalea), 37.
atristicta (Isochromodes), 146, 147.
atrofasciata (Temnora), 437.
atroviridis (Oospila), 24.
audacis (Geociehla), 208, 209.
augarra (Macroglossum), 138.

aulacata (Oligopleura), 58.
aulis (Himeromima), 141.
aurantiaca (Anisoperas), 129.
aurantiata (Alex), 484.
— (Anisodes), 27, 511.
aurantica (Stenoplastis), 19, 502.
aurata (Callipia), 79, 80.
— (Paraplodes), 25.
— (Perameles), 227, 228.
auravena (Psaliodes), 62.
auratus (Perameles), 228.
aurea (Parazeuzera), 384.
aureoviridis (Perizoma), 59.
auridisca (Hylemera), 471.
aurilimbata (Dysphania), 485, 486.
aurita (Didelphys), 645.
auritinctus (Baoris), 362.
aurivillii (Aeraea), 348.
aurora (Crocopteryx), 570.
aurorina (Precis), 348.
australasia (Alcedo), 196.
— (Halcyon), 196, 197.
australasiae (Halcyon), 196.
australis (Epistor), 436.
— (Eurystomus), 195.
— (Pulex), 613–16.
auxilians (Isochromodes), 147, 151.
auxo (Teracolus), 358.
avera (Abisara), 317.
Axia, 480.
axina (Aeraea), 327.
Axiocerses, 354.
Axiodes, 480.
Azanus, 356.
azarae (Didelphys), 641.
Azelina, 132, 133, 566, 567.
azurea (Alcyone), 196.

baeccatus (Goniocloeus), 260, 261.
badius (Herpestes), 637.
bacticus (Polyommatus), 356.
baliensis (Ptilinopus), 179.
bammakoo (Elymnias), 344.
Banisia, 483.
Baoris, 362.
Baptria, 542.
barbara (Mycalesis), 319.
barbicornis (Nemotrichus), 269–71.
barca (Durbania), 336.
— (Poultonia), 337.
barkeri (Catachrysops), 356.
Barra, 274.
basalis (Chrysococcyx), 200.
— (Monocloeus), 256, 257.
— (Piezocorynus), 277, 280.
basifusca (Acatapaustus), 415.
— (Roeselia), 415.
basiplaga (Nipteria), 546.
basipunctata (Spododes), 580.
basisiguata (Bryoptera), 106.
Basitropini, 286.
Bassania, 567.
bassetti (Zosterops), 213, 214.
bathus (Epistor), 436.
battangi (Olenecamptus), 365.
baumanni (Charaxes), 352.
Belenois, 358.
belidearia (Chlenias), 492.
— (Criomacha), 492.
bella (Cascera), 374.
— (Gymnognathus), 245.
— (Mixopsis), 162, 577.
— (Phascogale), 222, 229.
— (Stauropus), 379.
bellipicta (Spargania), 76.
bellissima (Cambogia), 82.
bengalensis (Centropus), 201.
bentet (Lanius), 210.
bergii (Sterna), 185.
bermeja (Isochromodes), 147.
bernardus (Macropus), 222, 225
Bettongia, 623, 628.
bialbifera (Phaeochlaena), 18.
bibulus (Lachnocnema), 354.
bicellata (Isostigena), 396.
bicolor (Campylona), 15.
— (Diversosexus), 403.
— (Microgonia), 575.
— (Parachrysops), 369.
— (Spreo), 609.
bicolora (Aeco), 418.
— (Dasychiroides), 407.
— (Oenistis), 420.
— (Schistophleps), 426.
bicolorata (Peribolodes), 126.
Bicyclus, 344.
bifasciata (Cryptoloba), 489.
bifenestrata (Emplocia), 96.
bifilata (Amaurinia), 526.
bilineata (Lambula), 416.
— (Leuculopsis), 101.
binigrata (Petelia), 122.
binotata (Heterusia), 536.
biplagiata (Oligopleura), 58.
biplagiatus (Physopterus), 231.
bipunctata (Anisodes), 27.
— (Chrysaeglia), 420.
— (Hema), 419.
— (Macaduma), 421.
Birthama, 385.
birthama (Contheyla), 386.
biseeta (Neopolita), 470.
bisinuata (Terias), 358.
bisoctodentata (Ctenophthalmus), 641, 642.
bitias (Tmetomorpha), 173.
biurus (Graphocularis), 639.
Blaberops, 238, 239.
Blaberus, 238, 239.
blanca (Gymnognathus), 243.

Blechroma, 502, 503.
blythi (Carpodacus), 456.
— (Propasser), 456.
Boarmia, 106, 322, 582.
boarula (Motacilla), 217.
boetonensis (Loxia), 456
bohlsi (Anthrenosoma), 282.
— (Pulex), 614, 620, 622.
boisduvali (Asterope), 350.
boliviensis (Herodon), 616.
bomba (Acraea), 326.
bonasia (Acraea), 346.
Bonatea, 568.
Boneatea, 146.
boobook (Ninox), 191.
borbonica (Parnara), 362.
Bordeta, 319, 320, 321.
bornemanni (Delias), 313.
boschas (Anas), 431.
böttgeri (Apicia), 566.
— (Certima), 569.
— (Ligonia), 513.
bouruensis (Oriolus), 219.
boweri (Hapalotis), 222.
Brabira, 528,
Brabirodes, 528.
Brachyctenistis, 133, 134.
brachyotis (Petrogale), 225.
Brachystichia, 134.
Brachytarsus, 308.
branti (Otomys), 611, 636, 638.
Brenthis, 348.
breviceps (Petaurus), 227.
brevilinea (Sarracena), 524.
brevipes (Heteractitis), 187.
brevirostris (Acanthis), 459.
— (Eugonodes), 302.
— (Gymnognathus), 249.
brevis (Ormiscus), 288, 290.
— (Piezocorynus), 277, 280.
bridgei (Papilio), 453.
brigitta (Terias), 358.
bromius (Papilio), 360.
Bronchelia, 550, 551.
brontes (Papilio), 360.
brooksi (Ctenopsyllus), 649, 650 52.
brunnea (Amanrinia), 525.
— (Campylona), 500.
— (Chionaema), 423.
— (Dasychira), 404.
— (Odontoptila), 39.
— (Pygmaeomorpha), 387.
brunneata (Hypolepis), 520.
brunneicosta (Tephroclystia), 530.
brunneofasciata (Asura), 425.
— (Trichosterrha), 515.
brunneostrigata (Dasychiroides), 407.
brunneus (Pteropus), 597.
brutus (Charaxes), 352.
Bryoptera, 106, 107, 115, 551, 582.
bubona (Devarodes), 96, 97, 544.
Bubulcus, 188.
bupaloides (Devarodes), 96.
Bupalus, 471.
buqueti (Lucoronia), 358.
Burgena, 444.
Buttia, 481.
buttikoferi (Rhipidura), 206.
byatti (Acraea), 328.
Byblia, 350.
Byrsia, 443.
Byssodes, 91.

caballus (Equus), 585, 588.
Caberodes, 130.
Cabira, 93, 125.
— (Acraea), 346.
cabrerae (Turdus), 431, 432
Cacatua, 195.
Caccabis, 432.
Caccorhinus, 236.
Cacomantis, 201.
cacuminata (Hammaptera), 52.
Cacyreus, 356
caecilia (Acraea), 346.
caeciloma (Hypercydas), 372.
caenis (Cymothoe), 352.
caerulescens (Caprimima), 443.
calabarica (Anauxesis), 365.
calais (Teracolus), 358.
Calandrella, 433.
Calanthemis, 364, 365.
calcaratus (Enparius), 303, 304, 306.
caldarena (Acraea), 346.
caledonica (Nycticorax), 188.
caledonicus (Nycticorax), 188.
calice (Castalius), 341.
californicus (Ceratophyllus), 633.
caliginosa (Anapalta), 43.
— (Hammaptera), 43.
calliope (Lopochorista), 22.
— (Pachycephala), 210.
Callipia, 79, 80, 538, 539.
Callipseustes, 116.
callosus (Euparius), 308.
— (Mecocerus), 231.
Calornis, 174, 220, 221.
calvus (Porphyrio), 185.
calypso (Belenois), 358.
Calyptocome, 32, 33.
Cambogia, 82, 526.
camillus (Marpesia), 350.
Camptotropis, 276.
Campylona, 14, 15, 500.
canariensis (Corvus), 433.
— (Dendrocopus), 132.
— (Serinus), 431.
— (Tinnunculus), 434.
Cancroma, 188.

Candalides, 368, 369.
candidata (Iridopsis), 110.
— (Neoplema), 496.
— (Syngria), 497.
candiope (Charaxes), 352.
canidentata (Bryoptera), 107.
Canis, 222, 606.
canisparsa (Certima), 135.
— (Dolichopyge), 46.
canisquama (Isochromodes), 572.
canopus (Caprona), 360.
capensis (Luceronia), 358.
— (Procavia), 609.
— (Xerus), 611.
capiens (Argyrolepidia), 446.
capitifera (Hylemera), 472.
caprata (Motacilla), 209.
— (Pratincola), 209.
Caprimima, 443.
Caprimulgus, 202.
Caprona, 360.
capucinus (Gonioclocus), 261, 264.
caracal (Felis), 609.
Carcharodus, 360.
cardinea (Semiothisa), 127.
cardui (Pyrameis), 348.
carinifrons (Acorynus), 232.
Caripeta, 135, 582.
carmentis (Acraea), 348.
carnearia (Semaeopus), 513.
carneata (Euomoea), 481.
— (Hymenomima), 109.
— (Lozogramma), 561.
— (Phyllodonta), 166.
carnuta (Telipna), 354.
Carpodacus, 456, 457.
Carpophaga, 180, 181.
Cascera, 374.
casta (Opisthoxia), 542.
— (Tephroclystia), 530, 531.
castalis (Teracolus), 358.
Castalius, 340, 341, 356.
castanea (Eusenca), 570.
— (Hypolepis), 55, 56, 57, 520.
castaneus (Equus), 583, 590.
castanopterus (Passer), 458.
castanotis (Taeniopygia), 218.
castor (Charaxes), 352.
castus (Rhodophthitus), 471.
Catachrysops, 356.
catachrysops (Teracolus), 358.
Cataclysme, 46.
Catacroptera, 348.
Catascia, 115.
catenulata (Hygrochronia), 571.
Catochrysops, 339, 340.
Catopsilia, 358.
catori (Xanthospilopteryx), 443.
Catuna, 350.
caudata (Deinopygia), 511.
Caviria, 397.
Ceblepyris, 207, 208.
cebrene (Precis), 348.
cedreatis (Charaxes), 352.
celaena (Parazenzera), 384.
Celaenorrhinus, 360.
celaeus (Catachrysops), 356.
Celama, 414.
celebensis (Caprimulgus), 202.
Celerena, 485.
celimene (Teracolus), 358.
centralis (Monocloeus), 259.
centralistrigata (Odonestis), 396.
Centropus, 201.
Ceratophyllus, 622, 639.
Ceratopsylla, 652, 653.
Ceratrichia, 362.
cerocampata (Pyrinia), 171.
Certima, 133, 135, 136, 137, 164, 559, 568.
Cerura, 381.
cervina (Herbita), 140.
cervinalis (Loxiorhiza), 494.
— (Zeuzerodes), 2.
cervinus (Macropus), 365.
ceryne (Precis), 348.
Ceryx, 382, 383.
Chactaphractus, 608.
Chaetopsylla, 645, 646.
Chalcococcyx, 199.
Chalcophaps, 183.
chalybea (Calornis), 221.
chalybearia (Paracomucha), 489.
Chapra, 362.
Charadrius, 186, 431.
Charaxes, 334, 335, 352, 354.
charina (Pinacopteryx), 342.
charybdis (Chionaema), 423.
Chelura, 322.
chelys (Gnophodes), 344.
chibcha (Cyllopoda), 15.
Chibia, 220.
Chilades, 356.
chimaera (Troides), 311.
Chionaema, 422, 423.
chlamydaria (Sarracena), 524.
Chlenias, 492.
chloris (Alcedo), 197, 198.
— (Halcyon), 197, 198, 199.
— (Mylothris), 356.
Chlorochaeta, 464.
Chloroclysta, 118.
chloroclystata (Ischnopteris), 117
Chloroclystis, 86.
Chogada, 474.
choiseuli (Caprimima), 443.
— (Delias), 453.
chorimene (Precis), 348.
chromiferus (Teracolus), 358.
Chrysaeglia, 420.
Chrysauge, 96.

chrysippus (Limnas), 326, 344.
chrysochlora (Chalcophaps), 183.
— (Columba), 183.
Chrysococcyx, 199—201.
Chrysocraspeda, 322, 466.
chrysocraspedata (Dysphania), 485.
chrysonome (Teracolus), 358.
Chrysoscota, 417.
Cidaria, 51, 58, 489, 522.
Cidariophanes, 556.
ciliatus (Ceratophyllus), 633.
Cimicodes, 137.
cincta (Columba), 177.
— (Ptilinopus), 177, 178, 179.
cinctus (Ptilopus), 177, 178.
cineracea (Carpophaga), 180.
— (Columba), 180.
cineraceus (Philemon), 216.
— (Tropidorhynchus), 216.
cinerascens (Drymophila), 207.
— (Monarcha), 207.
cinerea (Acraea), 325, 346.
— (Ardea), 431.
— (Neotoma), 643.
— (Scolopax) 187.
— (Sylvia), 433.
— (Terekia), 187.
cinereus (Poliolimnas), 185.
— (Porphyrio), 185.
cinerosaria (Craspedia), 512.
— (Emmiltis), 512.
cingulina (Stenoplastis), 19, 501, 502.
cinnamomeus (Passer), 458.
Cinnyris, 214, 215.
circeis (Acraea), 346.
circumfumata (Stenalcidia), 556.
circumscripta (Calornis), 221.
— (Metallochlora), 486.
circumsticta (Ptychopoda), 468.
circumvallaria (Lomographa), 92.
Circus, 431.
Cirsodes, 576.
cisalpina (Pyrgita), 458.
cissus (Cupidopsis), 356.
Cisticola, 209, 210.
cisticola (Cisticola), 209, 210.
citrina (Apicia), 566.
citrinata (Psaliodes), 63.
citrinella (Zosterops), 213.
claelia (Astyochia), 102.
clara (Gymnognathus), 245.
clararia (Ophthalmodes), 490.
clarei (Acraea), 327, 346.
— (Neptis), 330, 350.
— (Pentila), 354.
clarimargo (Heterusia), 537.
clathrata (Delias), 315.
— (Psaliodes), 63.
clathratus (Gymnognathus), 252.
clelia (Gymnognathus), 248.
clelia (Precis), 348.
cleocharis (Apaturopsis), 350.
cleodora (Eronia), 358.
Cleolosia, 424.
cleonica (Scea), 19.
cleophontis (Pulex), 614.
Cleora, 107.
Clerekia, 442.
clericus (Eugonops), 285, 283.
clitelliger (Euparius), 305.
cloanthe (Cataeroptera), 348.
cocama (Hammaptera), 52.
coccinata (Cymothoe), 352.
cocyti (Pulex), 617.
coelebs (Discotenes), 272.
coelestina (Precis), 348.
Coelura, 7.
Coeluromima, 8.
coenobita (Pseudoneptis), 350.
Coenocalpe, 46.
Coenocharis, 582.
coerulea (Rapala), 354.
coeruleopicta (Erateina), 536.
coliadata (Emplocia), 97.
— (Heterusia), 89.
Colias, 358.
collaris (Alcedo), 198.
— (Anthribus), 299.
— (Halcyon), 198.
colletti (Mus), 599.
Collocalia, 203.
Collusa, 429.
colonus (Halcyon), 199.
colorata (Microxydia), 160.
colorifera (Spargania), 77, 78.
Colotois, 479.
Colpodonta, 569.
Columba, 177, 179, 180, 181-3, 432.
columbina (Atella), 348.
Comibaena, 20.
commaculata (Cymatophora), 555.
— (Melanoscia), 555.
commixta (Amaurinia), 526.
— (Enchontha), 16.
commixtata (Epiplema), 2.
commotaria (Cymatophora), 108, 552.
compar (Pachycephala), 212.
— (Piezocorynus), 277.
completa (Hypolepis), 520.
— (Nematocampa), 163.
complicata (Perusia), 165.
compsa (Pseudapiconoma), 441
comptus (Gymnognathus), 252.
concinna (Carpophaga), 181.
— (Cosmiema), 448.
— (Dromica), 448.
— (Peradorcas), 226.
— (Petrogale), 222, 226.
conicitus (Pulex), 615.
concolor (Homocleus), 264.

condor (Rothschildia), 601.
conduplicata (Craspedia), 34.
confinis (Mesedra), 153, 154, 155.
conflua (Blechroma), 502.
— (Eugoa), 427.
— (Racheospila), 506.
confucius (Passer), 458.
confusa (Cymothoe), 352.
— (Nematocampa), 577.
congolensis (Euryphene), 352.
conifera (Phellinodes), 14.
Conilurus, 222, 223.
consimilis (Saccoploca), 9.
consors (Discotenes), 272.
— (Euparius), 305.
conspera (Blechroma), 502.
conspersaria (Dyscia), 476.
conspersata (Hypolepis), 55.
conspicua (Melinodes), 574.
— (Neptis), 329, 350.
constantinaria (Callipia), 83.
constellata (Psendasellodes), 39, 40.
constricta (Hammaptera), 51.
constrictifascia (Azelina), 133.
contacta (Melinodes), 153.
Contheyla, 385, 386.
contingens (Campylona), 14.
contrariata (Ophthalmosphora), 94.
convergens (Craspedia), 512.
— (Emmiltis), 512.
— (Pycnoneura), 498.
conversa (Calyptocome), 32.
Cophocerotis, 539–41.
coprates (Euphaedra), 352.
corax (Corvus), 433.
cordofanicus (Passer), 459.
corfidii (Pulex), 619.
cornutus (Anthribus), 300.
coromanda (Bubulcus), 188.
— (Cancroma), 188.
coronata (Azelina), 567.
coronatus (Gymnognathus), 246.
Corrhecerus, 270, 271, 275.
corrosa (Psaliodes), 72.
Corvus, 208, 221, 433.
Cosmema, 448.
Cosmorhoe, 542.
costata (Oenoptila), 120, 122.
costatus (Monocloeus), 259.
costifer (Ormiscus), 287.
costifrons (Ormiscus), 289.
costistrigata (Ilema), 419.
costivallata (Tephroclystia), 87.
Craspedia, 33–6, 466, 467, 512.
crassa (Isochromodes), 148.
crassata (Selidosema), 477.
crassirostris (Passer), 459.
— (Tringa), 187.
Cratoptera, 137.
crawshayi (Belenois), 358.
crawshayi (Lycaenesthes), 356.
crenatilinea (Craspedia), 512.
— (Emmiltis), 512.
crenulata (Eubyja), 473.
crescens (Sangalopsis), 99.
creusae (Pulex), 608, 610.
Criomacha, 492.
cristata (Hystrix), 612.
cristatus (Vanellus), 431.
crithea (Catuna), 350.
crocatum (Zamium), 364.
Crocopteryx, 570.
crossleyi (Euxanthe), 352.
Cryptocephalus, 296.
Cryptoloba, 489.
cryptorhodata (Pisoraca), 467.
Ctenophthalmus, 625, 641–3.
Ctenopsyllus, 646, 647–52.
Cuculus, 175, 201.
cuneifera (Cyllopoda), 15.
cuniculus (Bettongia), 628.
cuningputi (Delias), 313, 314.
— (Pieris), 313.
Cupidopsis), 356.
cupreata (Tephroclystia), 531.
cupreus (Ormiscus), 286.
cuprina (Nematocampa), 577.
curtaria (Ptychopoda), 40.
curvifascia (Tephroclystia), 87.
curvifera (Sangalopsis), 99.
curvipes (Phaenithon), 292.
curvirostra (Loxia), 460.
Cusiala, 472.
cyanocephala (Eudynamis), 201
cyanocephalus (Eudynamis), 201
cyara (Phylaria), 356.
Cycethra, 393.
Cyclomia, 62.
cyclopeata (Microgonia), 160
Cyclopides, 343, 362.
Cyclyrius, 356.
cylindricus (Mecotropis), 230.
Cyllopoda, 15.
Cymatophora, 552, 553, 555.
Cymothoe, 352.
Cynandra, 350.
cynorta (Papilio), 342, 360.
cynthia (Erateina), 536.
Cyornis, 234.
cypraeofila (Papilio), 342, 343.
cythereata (Syrtodes), 124.

daedalus (Leucosticha), 350.
dahli (Pseudochirus), 222, 227.
daira (Acraea), 346.
— (Epirrhoe), 76.
— (Spargania), 76.
dammeriana (Halcyon), 196, 197.
damoclides (Amauris), 344.

Danaëata, 95.
dardanus (Papilio), 360.
Darna, 15, 18, 500, 501.
Dasychira, 404, 405.
Dasychiroides, 405–7.
dasycnemus (Typhlopsylla), 645.
Dasypus, 604, 608.
Dasyrhopala, 272, 273, 274.
Dasyurus, 228, 623.
daurica (Hirundo), 203.
davisoni (Halcyon), 198.
deaurata (Craspedia), 34.
deceptor (Anomalipus), 450.
decius (Charaxes), 352.
decolor (Hyperythra), 491, 492.
decorata (Anisodes), 507.
— (Eueymatoge), 529.
— (Miantonata), 22.
decorus (Gymnognathus), 242.
deflavata (Dysphania), 486.
degener (Cinnyris), 214, 215.
Deilemera, 411, 412.
Deinopygia, 511.
delacruzi (Oospila), 504.
delectans (Certima), 136.
Delias, 310, 312–17, 453, 454.
delicatula (Cambogia), 83.
Demiegretta, 188.
demodocus (Papilio), 360.
Dendrocopus, 432.
Dendrodorcopsis, 225.
denotata (Isochromodes), 147.
densa (Chilbia), 220.
densicauda (Tephroclystia), 531.
densus (Dicrurus), 220.
dentata (Mycalesis), 344.
dentatilinea (Acidalia), 515.
dentienlata (Hirasa), 473.
dentifascia (Cryptoloba), 489.
dentilineata (Anisoperas), 564.
— (Lagyra), 13.
dependens (Rhacospila), 25.
depressipennis (Apolecta), 236.
derasata (Pyrinia), 580.
deserti (Saxicola), 431.
desjardinsi (Terias), 358.
detecta (Parnara), 362.
Devara, 96.
Devarodes, 96, 97, 544.
Diacrisia, 412, 413.
Diactinia, 46.
diaphana (Hydata), 86.
Dicaeum, 175, 214.
Dicallaneura, 318, 370.
Dichorda, 503.
Dichromatopodia, 36.
Dicotyles, 614.
Dicrurus, 220.
Didelphys, 641, 645
Diestogyna, 334, 352.
diffusus (Passer), 458, 459.
digus (Octodon), 620.
dilacerata (Erosia), 495.
— (Gathynia), 495.
dilutus (Charaxes), 354.
dimarcha (Hypolimnas), 350.
Dinawa, 386.
dinawa (Asura), 426.
— (Birthama), 385.
— (Caviria), 397.
— (Chionaema), 423.
— (Deilemera), 411.
— (Diacrisia), 413.
— (Euproctis), 399.
— (Ilema), 419.
— (Omichlis), 376.
— (Pseudilema), 419.
— (Scopelodes), 384.
— (Stauropus), 379.
— (Taragama), 394.
— (Thyatira), 381.
dinawensis (Tarsolepis), 373.
dingo (Canis), 222.
dira (Amauris), 324, 325, 344.
Dirades, 8.
discalis (Erateina), 536.
discifera (Nephele), 436.
discifer (Ormiscus), 289, 290.
discolor (Ischnopteris), 557.
Discotenes, 272.
discus (Delias), 312.
disjuncta (Acraea), 348.
dislocata (Cymatophora), 108, 552, 553.
— (Ira), 142.
dismutata (Rhopalista), 75.
dispansa (Nipteria), 546, 549.
dispar (Edoliisoma), 208.
— (Paracomistis), 148.
— (Piezocorynus), 276, 277, 278, 284.
disparata (Tephrina), 562.
disrupta (Xanthomima), 489.
dissipata (Isochromodes), 146, 147.
distans (Dichromatopodia), 36.
— (Microgonia), 156.
distichata (Microgonia), 157.
diva (Mulionia), 321.
dives (Delias), 313
divergens (Saccoploca), 496.
diversa (Apolecta), 237.
— (Pseudogargetta), 373.
diversicolor (Oligoplenra), 58.
Diversosexus, 402, 403.
divisa (Nelo), 91.
divisata (Striglina), 484.
dixeyi (Pinacopteryx), 341, 358.
djaelaelae (Sarangesa), 360.
Dochephora, 535.
dognini (Ira), 145.
dohertyi (Epiplema), 462.
Dolichopyge, 46, 47.

domestica (Passer), 458.
domesticus (Passer), 458.
dominicanus (Amauris), 344.
dominicus (Charadrius), 186.
Domoptolis, 253.
dorippae (Ceratophyllus), 636.
dorippoides (Hypolimnas), 350.
dorippus (Limnas), 344.
dormita (Thysanoetena), 535.
dorsalis (Gerygone), 205.
— (Homocloeus), 266.
— (Piezocorynus), 279, 281.
dorsimigrata (Craspedia), 34
dorsomaculatus (Nemotrichus), 270.
dorsonotatus (Gymnognathus), 250.
dositheata (Certima), 136, 137.
doubledayi (Acraea), 327, 346.
draco (Epiplema), 5.
Drepanodes, 138.
Drymophila, 207.
Dromica, 448, 449.
druncei (Aphneus), 338.
Druncia, 20.
drummondi (Microtus), 642.
dryas (Pogonomys), 600.
dryope (Eurytela), 350.
dubia (Imaus), 410.
— (Nervicompressa), 391.
dubiosus (Stauropus), 379.
dubius (Carpodacus), 456.
— (Hypolimnas), 350.
duciata (Bonatea), 568.
duperreyii (Megapodius), 176.
duplicata (Isochromodes), 572.
Durbana, 470, 471.
Durbania, 336.
durus (Piezonemus), 275, 276.
Dyscia, 475, 476.
Dysodia, 461, 462.
Dysphania, 485, 486.
Dyspteris, 527.

Eagris, 360.
ebria (Cophocerotis), 539.
eburneata (Craspedia), 34.
echeria (Amauris), 344.
Ectropis, 474, 475.
edipus (Pardaleodes), 362.
editha (Gymnognathus), 250.
Edoliisoma, 208.
egesta (Cymothoe), 352.
egina (Acraea), 346.
eichhorni (Delias), 316.
— (Euhordeta), 320.
ekeikei (Acatapaustus), 416.
— (Anthela), 405.
— (Collusa), 429.
— (Contheyla), 385.
— (Dicallencura), 370.
ekeikei (Hema), 419.
— (Lymantria), 408.
— (Porthesia), 398.
— (Thyatira), 382.
elaphrinus (Monocloeus), 255
electo (Colias), 358.
elegans (Marmosa), 634.
— (Temnora), 437.
elegantula (Rhipidura), 206, 207.
elens (Euphaedra), 334, 352.
elgonensis (Teracolus), 358.
elisabethaereginae (Troides), 311
elma (Carcharodus), 360.
Elodina, 369.
elongata (Paromala), 58.
Elphos, 490.
Elymnias, 344.
emanata (Coenocalpe), 46.
Emberiza, 433.
emilia (Delias), 314.
emiliana (Macropygia), 182.
emini-bey (Passer), 458.
— (Sorella), 458.
emma (Gymnognathus), 244.
Emmesura, 487.
Emmiltis, 466, 467, 512.
Emplocia, 96, 97.
emucidaria (Dyscia), 476.
encedon (Acraea), 346.
endymionis (Ceratophyllus), 634.
Enedreytes, 242.
energumenos (Putorius), 652.
engelkei (Eriopygidia), 49, 517.
— (Phlebosphales), 61.
enigma (Halcyon), 199.
ennomaria (Axiodes), 480.
— (Hyperythra), 491.
— (Sieya), 171.
Ennomos, 173.
enotrea (Ergolis), 350.
Entephria, 488.
Entogonia, 12.
epaphia (Glutophrissa), 358.
Ephialtias, 16.
epijasius (Charaxes), 352.
Epiplema, 2–5, 7, 9, 462, 494–6.
Epirrhoe, 43, 76, 517.
Epistor, 436.
Epitaphius, 240.
Epitola, 354.
epops (Upupa), 431.
equatorialis (Acraea), 327, 346.
equestris (Euparius), 308, 309.
equuleus (Equus), 585.
Equus, 583–96.
Erannis, 106.
Erateina, 536.
erebaria (Colotois), 479.
Erebochlora, 47, 48, 53, 517.
erectinota (Tephroclystia), 531.

erectistria (Josia), 17.
Ergolis, 350.
eridos (Pulex), 611.
erilli (Pulex), 610.
Erilophodes, 173, 582.
Eriopygidia, 49–51, 517, 518.
eriphia (Herpaenia), 356.
eris (Teracolus), 358.
erminea (Apaturina), 452.
erna (Gymnognathus), 248.
Eronia, 358.
Erosia, 495.
Erotylopsis, 308, 309.
erubescens (Lozogramma), 561
— (Macropus), 224, 225.
erxia (Eronia), 358.
erycinoides (Chrysauge), 96.
Erythrospiza, 430, 457.
Erythrura, 217, 218.
Esacus, 187.
esculenta (Collocalia), 203.
esebria (Acraea), 348.
estriada (Abraxas), 544.
etesipe (Charaxes), 352.
etheocles (Charaxes), 352.
ethosea (Mesoxantha), 350.
Eubordeta, 320, 321.
Eubyja, 473.
Euchontha, 16.
Eucyclotropis, 273, 274.
Eucymatoge, 86, 87, 528, 529.
eudoxus (Charaxes), 334, 335, 352.
Eudule, 81, 541.
Eudynamis, 201.
Eugigas, 230.
Eugoa, 427.
Eugonodes, 302.
Eugonops, 285, 286.
Eugonus, 300—302.
eumedon (Xylophanes), 440.
Euomoea, 481, 482.
eupale (Charaxes), 354.
Euparius, 303–9.
Euphaedra, 333, 334, 350, 352.
Euphlocobius, 239.
eupompe (Teracolus), 358.
Euproctis, 398–402.
Euptera, 352.
Eurostopus, 202.
Euryphene, 352.
Euryphura, 352.
Eurystomus, 195.
Eurytela, 350.
eurytus (Pseudacraea), 332.
Eusarca, 130, 132, 153.
Euselasia, 369.
Eusenea, 570.
Eusphyrus, 286, 290
euteles (Psittacus), 193.
— (Trichoglossus), 193.
Eutomopepla, 139.
eutychus (Euselasia), 369.
Euxanthe, 352.
evarne (Teracolus), 358.
Everes, 356.
everetti (Eudynamis), 201.
— (Gerygone), 204.
— (Ptilinopus), 179.
— (Xenocerus), 230.
evippe (Teracolus), 358.
exaleuca (Neptis), 341.
excelsior (Acraea), 328.
excisa (Saccoploca), 8, 9.
exclamationis (Nipteria), 547.
Exechontis, 283–4.
Exelis, 482, 555, 581, 582.
exemptaria (Ophthalmodes), 490.
exertata (Blechroma), 503.
exilinota (Ptychopoda), 468.
exilis (Cisticola), 210.
— (Malurus), 210.
Exillus, 284.
expallidata (Amaurinia), 81.
expansa (Pseudacraea), 350.
exquisita (Cinnyris), 214, 215.
exquisitata (Ligonia), 513.
exsecuta (Baptria), 542.
extensus (Gymnognathus), 242.
extimaria (Isochromodes), 146, 149
extorris (Exelis), 482.

fabraci (Gymnognathus), 251.
Falco, 190, 431, 434.
falkensteini (Uranthauma), 356.
fallax (Blaberus), 239.
farinatus (Anthibus), 296, 297.
fasciata (Hirsutopalpis), 375.
fasciatus (Rallina), 184.
— (Rallus), 184.
faunus (Oxylides), 354.
fenestrata (Pseudapiconoma), 112.
fenestratella (Dysodia), 462.
felina (Melanoscia), 111, 112.
Felis, 609.
femoralis (Homocloeus), 265.
ferruginata (Anisodes), 31.
ferruginea (Argyrotome), 93.
— (Lasioliuacos), 389.
ferrugineus (Gallus), 176, 177.
festiva (Ischnopteris), 557.
ficifera (Sangalopsis), 99.
fidelis (Ischnopteris), 117, 558.
Fidonia, 470, 471, 560.
fidouiata (Porona), 560.
figurata (Siculodes), 493.
figuratus (Phaenithon), 293, 291.
filata (Ocnoptila), 120, 121.
finschi (Oriolus), 219.
Fisera, 492.

flabellaria (Phyllodonta), 168.
flaccidus (Corrhecerus), 271.
flagrans (Callipia), 80.
flammata (Dysodia), 461.
flammea (Strix), 192.
flammifera (Darna), 500.
flava (Ceratrichia), 362.
flaveola (Asura), 424.
flavescens (Acraea), 346.
flavicaput (Euproctis), 402.
flavida (Asura), 425.
flavidisca (Comibaena), 20.
flavidiscata (Anisodes), 28.
— (Herbita), 141.
flavifulva (Cambogia), 83.
flavilimes (Lissochlora), 21.
flavinota (Eudule), 81.
flavipes (Phascogale), 229.
flaviplaga (Nipteria), 102.
— (Sangalopsis), 100.
flavipleta (Chogada), 474.
flavirostris (Acanthis), 459.
flavocinctus (Oriolus), 218, 219.
flavolimbarioides (Cidaria), 51.
flavopunctata (Halone), 421.
flavostrigata (Chrysoscota), 417.
flebilis (Nipteria), 102.
flesus (Tagiades), 360.
flexa (Mimosema), 162
flexilinea (Aeschropteryx), 128.
— (Hygrochroma), 141.
floccosa (Gyostega), 94.
flora (Sangalopsis), 100.
florella (Catopsilia), 358.
floresiana (Alcedo), 195, 196.
floresianus (Geoffroyus), 194, 195.
floris (Spizaëtus), 189.
forbesi (Erythrura), 217.
forestan (Rhopalocampta), 362.
formosa (Belenois), 358.
— (Melinda), 344.
— (Pyrinia), 170.
— (Semiothisa), 562.
formosus (Cyclopides), 362.
fornax (Ephialtias), 16.
— (Lyces), 16.
forsteni (Halcyon), 198.
— (Oriolus), 219.
fortis (Bassania), 567.
— (Trichoglossus), 192, 193.
fractifascia (Heterusia), 89.
fractilinea (Psaliodes), 64, 522.
fractilineata (Apicia), 130.
— (Eusarca), 130.
fragilis (Prostoma), 123.
— (Tephrinopsis), 562.
fragmentata (Calyptocome), 32.
fraterna (Isochromodes), 148.
frenatus (Anthribus), 298.
Fringilla, 217, 434, 457.
frontalis (Anthribus), 235.
fruhstorferi (Mecotropis), 230.
— (Sympaector), 233.
fulgorifera (Eutemopepla), 139.
fulgurata (Anisodes), 508.
— (Chloroclysta), 118.
— (Ischnopteris), 118.
Fulgurodes, 545.
fuliginosa (Metanema), 156, 576.
— (Mimogonodes), 576.
fulminea (Chloroclysta), 118.
— (Ischnopteris), 118.
fulvescens (Gerygone), 205.
fulvicollis (Mieroxydia), 161.
fulvifascia (Thysanopyga), 124.
fulvilinea (Drepanodes), 138.
fulvimedia (Sangalopsis), 100.
fulvistriga (Dolichopyge), 47.
fulvitacta (Morphomima), 7, 8.
fulvitincta (Eetropis), 474.
fulvus (Charadrius), 186.
fumata (Chogada), 474.
fumibrunnea (Stenalcidia), 114.
fumida (Exelis), 581.
fumistrota (Bronchelia), 550.
fumosa (Temnora), 436, 437.
funerea (Ira), 143, 146.
— (Osica), 374.
funesta (Heterusia), 91.
funiculata (Cambogia), 84.
furva (Melinodes), 153.
fusca (Ninox), 192.
fuscata (Psaliodes), 66.
fuscibasis (Celama), 414.
fuscicapilla (Cisticola), 209.
fuscoradiata (Euproctis), 400.
fuscus (Nemotrichus), 269, 270.
fustina (Sangala), 99.

Gagitodes, 519.
gaika (Zizera), 356.
galactotes (Megalurus), 210.
galene (Aterica), 359.
gallienus (Papilio), 342, 343, 360.
gallinago (Scolopax), 131.
Gallinula, 184.
Gallus, 176, 177.
galua (Gamia), 362.
Gamia, 362.
Garudinistis, 422.
Gasterocome, 491.
gastropachata (Oxydia), 157.
Gathynia, 495.
Gegenes, 362.
Gelasma, 20.
geminipuncta (Thysanocraspeda), 10.
Geocichla, 208, 209.
geoffroyi (Charadrius), 186.
— (Ochthodromus), 186.

Geoffroyus, 194, 195.
Geopelia, 182.
germaini (Eugonops), 285, 286.
gerontes (Abisara), 354.
Gerygone, 204, 205.
gibberifrons (Anas), 188.
gidica (Belenois), 358.
gigantula (Anisodes), 508.
githaginea (Erythrospiza), 430, 457.
glabra (Petelia), 476.
glareola (Totanus), 187.
glauca (Osica), 374.
Glaucopteryx, 488.
gloriosa (Pseudapiconoma), 411.
Gluptophrissa, 358.
Gnophodes, 344.
godmani (Planema), 348.
goffini (Cacatua), 195.
goliath (Ornithoptera), 311.
— (Troides), 311-12.
golo (Mycalesis), 344.
Gonanticlea, 488.
Goniocloeus, 260, 266.
Gonodela, 478, 479.
Gonops, 286.
gorgon (Epistor), 436.
gouuellei (Anthrenosoma), 282.
— (Anthribus), 296.
— (Barra), 275.
gracilicornis (Camptotropis), 276.
— (Piezocorynus), 277, 278, 279, 280.
gracilis (Cleora), 107.
grandis (Calornis), 221.
granocostatus (Anomalipus), 450.
granti (Ctenopsyllus), 646, 647, 648.
granula (Sabulodes), 161.
granulata (Myrmecoptera), 449.
graphica (Perusia), 166.
Graphocularis, 639.
Graphosia, 415.
Graucalus, 207, 208.
gregori (Castalius), 340, 341.
— (Neocoenyra), 344.
— (Precis), 348.
grisea (Enbyja), 473.
— (Isochromodes), 149.
griseata (Lophopygia), 495.
griseicosta (Cambogia), 84.
griseicincta (Hemichelidon), 204.
— (Muscicapa), 204.
griseiventris (Zosterops), 213.
griseocostata (Ptychopoda), 40.
griseola (Omichlis), 377.
griseomarginata (Odonestis), 397.
griseus (Canis), 606.
grossiventris (Malacopsylla), 603, 604, 606.
— (Pulex), 603.
guecnéei (Microgonia), 157.
guizonis (Byrsia), 443.
— (Clerckia), 442.
guizonis (Prothoe), 366.
gularis (Passer), 459.
Gunda, 370, 371.
guttata (Stenaleidia), 111.
gutturalis (Hirundo), 203.
Gymnognathus, 242-54.
Gynandrocerus, 302.
Gyostega, 93, 94.

haberhaueri (Neodezia), 542.
Habrissus, 234, 235.
hades (Hema), 420.
Haemalea, 37.
haematodus (Psittacus), 192.
— (Trichoglossus), 192, 193.
Haematospiza, 456, 457.
Haggardia, 473.
halans (Tuerta), 446.
Halcyon, 196-9.
Haliaetus, 176, 189.
Haliastur, 175, 176, 189.
hallucatus (Dasyurus), 228.
Halone, 421, 422.
hamar (Equus), 589.
hamatus (Ensphyrus), 291.
— (Gymnognathus), 251.
Hammaptera, 43, 51, 52.
hampsoni (Omichlis), 375.
— (Scoliacma), 417.
hanningtoni (Brenthis), 348.
Hapalotis, 222, 223.
harmandi (Eugigas), 230.
harpax (Axiocerses), 354.
harterti (Delias), 312.
Hasodima, 133.
hatita (Hypolycaena), 351.
hauseri (Calanthemis), 364.
— (Mecocerus), 238.
haydenata (Catascia), 115.
hecataeus (Papilio), 453.
hecate (Amauris), 325, 344.
Hectopsylla, 602, 603.
hedylaria (Phellinodes), 14.
Hedyle, 499.
hegemone (Pseudargynnis), 350.
helena (Gymnognathus), 249.
Hemichelidon, 204.
Hemigymnodes, 17.
hemileuca (Chelura), 322.
hemileucurus (Hapalotis), 223.
hemionus (Equus), 583-9.
Hemioplisis, 5, 6, 497.
Hemipodius, 177.
hemippus (Equus), 591.
Hemixera, 139.
Henotesia, 344.
Herbita, 140, 141.
Herodon, 616.
Herpaenia, 356.

Herpestes, 637.
Hesperia, 360.
hesperus (Papilio), 360.
Heteractitis, 187.
Heterephyra, 37.
Hetererannis, 106.
heterograpta (Neocrasis), 23, 506.
— (Poecilochlora), 506.
Heteroleuca, 101, 545.
Heteropygia, 187.
Heterorachis, 465.
Heterusia, 89–91, 447, 536–8.
hiarbas (Eurytela), 350.
hieroglyphica (Anisodes), 28.
hilda (Gymnognathus), 244.
hilli (Ceratophyllus), 622, 623, 624.
Himantopus, 186.
Himeromima, 141.
hippocoon (Papilio), 360.
hippocrates (Cupidopsis), 356.
Hirasa, 473, 474.
Hirsutopalpis, 375.
hirsutus (Conilurus), 222.
— (Goniocleus), 262.
Hirundo, 203, 204.
hirundo (Euptera), 352.
hispaniolensis (Passer), 432, 458.
hispidata (Sterrha), 469.
hispidoides (Alcedo), 196.
hobleyi (Diestogyna), 334.
— (Lycaenesthes), 339.
— (Pseudacraea), 331, 350.
hoedti (Alopecoenas), 175, 184.
— (Rhipidura), 206.
hoedtii (Leptoptila), 184.
hollandi (Aphnaeus), 354.
Holochroa, 582.
homeyeri (Papilio), 360.
Homocleus, 260, 264–6.
homoeus (Piezocoryuus), 279, 281.
Hormiscus, 286.
hottentota (Gegenes), 362.
hnambaria (Iridopsis), 553, 554.
humerata (Loxapicia), 152.
humii (Alcedo), 198.
— (Haleyon), 198.
humilis (Aeraea), 346.
Huphina, 312.
hutchinsoni (Aphnaeus), 338.
hyacinthina (Cyoruis), 204.
— (Muscicapa), 204.
Hyalopola, 101.
Hyalorrhoe, 21
Hyalospila, 101.
Hydata, 21, 86.
Hydatocapnia, 469, 470.
Hydatoscia, 101.
Hydriomena, 53, 74, 519.
Hydrocorax, 189.
hygini (Ctenopsyllus), 650, 652
Hygrochroma, 141, 142, 571.
Hylemera, 471, 472.
Hylopemon, 251.
Hymenomima, 109, 110.
Hypercydas, 372.
Hyperythra, 491, 492.
Hyphedyle, 499.
hypocala (Bordeta), 321.
— (Eubordeta), 321.
Hypocharmosyna, 175.
Hypochrysops, 369.
Hypolais, 431.
Hypolamprus, 483.
Hypolepis, 54, 55–7, 63, 520, 521.
Hypoleucis, 362.
hypoleucus (Actitis), 431.
— (Sphecotheres), 175, 220.
— (Tringoides), 187.
Hypolimnas, 348, 350.
Hypolycaena, 354.
Hypometalla, 563.
Hyposidra, 480.
hypsideres (Euparius), 307.
hyrtaci (Ctenopsyllus), 652.
Hystrix, 612.

iccius (Bicyclus), 344.
idaeus (Monocleus), 258.
ignea (Oenoptila), 559.
igniplaga (Ira), 143.
ignita (Oxypalpus), 362.
iguivenata (Psaliodes), 65.
Ilema, 419, 420.
ilias (Parelodina), 369.
ilithyia (Byblia), 350.
illepidaria (Emmesura), 487.
ilma (Tetraharnis), 354.
Imaus, 409–11.
imparistigma (Anisodes), 29.
improbaria (Rhopalista), 76
impudens (Perixera), 487.
impunctata (Psamathia), 496.
— (Synelys), 514.
impura (Ypthima), 344.
inaequalis (Anthribus), 299.
inanis (Ptychopoda), 41.
inaria (Hypolimnas), 350.
incaudata (Aeschropteryx), 128.
incerta (Pardaleodes), 362.
incolorata (Semaeopus), 514.
incommoda (Psodopsis), 560.
incondita (Dyscia), 476.
incongruata (Hasodima), 133.
incopularia (Apicia), 130.
indecora (Neohapta), 93.
indentata (Semiothisa), 127.
indica (Haematospiza), 456.
— (Loxia), 456.
indicus (Equus), 588, 591.

indicus (Habrissus), 234, 235.
— (Porphyrio), 185.
indistincta (Erilophodes), 173.
indistinctus (Allandrus), 242.
indus (Haliastur), 175, 176, 189.
infantula (Psaliodes), 523.
inferna (Amauris), 325.
— (Psaliodes), 65.
infracta (Precis), 348.
infundibulata (Anapalta), 43.
innominatus (Chalcococcyx), 199.
— (Chrysococcyx), 200.
innotata (Isochromodes), 148, 151.
— (Morova), 483.
inornata (Calyptocome), 33.
— (Monarcha), 207.
— (Thysanocraspeda), 10.
inornatus (Monarcha), 175, 207.
— (Philemon), 216.
inquinata (Tetracis), 581.
insignis (Acraea), 346.
— (Ceratopsylla), 653.
— (Strabops), 253.
insularis (Amadina), 218.
— (Amaurornis), 185.
— (Taeniopygia), 218.
intacta (Cambogia), 85.
integra (Argyrolepidia), 446.
integraria (Colotois), 479.
— (Odontopera), 479.
intensa (Spargania), 76, 78.
intensata (Semiothisa), 127.
interalbicans (Caripeta), 135.
interalbulata (Ptyhopoda), 487.
interclarata (Microgonia), 575.
interlineata (Gonodela), 478.
intermedia (Melochlora), 22.
— (Platalea), 188.
intermedius (Cuculus), 175.
— (Haliastur), 175, 176, 189.
internexata (Craspedia), 35.
interposita (Haleyon), 196, 197.
interpres (Morinella), 186.
— (Strepsilas), 431.
— (Tringa), 186.
interrupta (Phellinodes), 14.
invaria (Ameria), 81.
iobates (Cupidopsis), 356.
iodutta (Acraea), 348.
Ipthima, 362.
Ira, 142–6.
Iridopsis, 110, 111, 553, 554.
iris (Neopsittacus), 194.
— (Psittacus), 194.
— (Trichoglossus), 194.
irma (Gymnognathus), 247, 248.
irregularis (Enproctis), 401.
irritans (Pulex), 602, 631.
irrorativiridis (Notodonta), 380.
isabella (Cambogia), 83.
isabella (Caprimima), 113.
isabellae (Delias), 453, 454.
isabellina (Xanthomima), 489.
Ischnopteris, 116–19, 124, 556–8.
isidis (Pulex), 609, 642.
Isochromodes, 146, 147–51, 161, 572, 573, 577–581.
Isodiscodes, 521.
isolata (Arima), 517.
— (Eriopygidia), 517.
Isostigena, 395, 396.
ispida (Alcedo), 195.
itamputi (Delias), 314.
itonia (Ipthima), 362.
iturina (Acraea), 326, 346.

jacksoni (Amauris), 344.
— (Mylothris), 358.
jagoensis (Passer), 458.
javanica (Hirundo), 203.
— (Strix), 192.
javanicus (Centropus), 201.
jekeli (Nemotrichus), 269, 270.
jesous (Azanus), 356.
jimenezaria (Azelina), 133.
johnstoni (Acraea), 346.
jonquillaceus (Platycercus), 195.
— (Ptistes), 195.
Josia, 17, 18.
juennda (Pseudospiris), 444.
junctaria (Pyrinia), 171.
juneturaria (Apicia), 130.
juvenis (Mesedra), 154, 156.

Kallima, 350.
katharina (Delias), 312.
kebeae (Deilemera), 411.
— (Diacrisia), 413.
— (Enproetis), 399.
— (Gunda), 370.
— (Lymantria), 408.
— (Nervicompressa), 391.
— (Stauropus), 378.
kebirensis (Pachycephala), 212, 213.
— (Stigmatops), 215.
Kedestes, 362.
keiana (Abisara), 317.
kenricki (Dasychira), 405.
— (Lasiolimacos), 388.
kersteni (Lycaenesthes), 356.
kiang (Equus), 585.
kirki (Charaxes), 352.
kisserensis (Gerygone), 205.
— (Monarcha), 207.
klagesi (Pulex), 620.
koenigi (Caccabis), 432.
— (Lanius), 434.
krausi (Mimacraea), 337.

kuehni (Calornis), 174, 220, 221.
— (Myzomela), 174, 175, 215.
kuenowi (Pseudacraea), 331, 350.
kuhni (Gerygone), 205.
kummeri (Delias), 313.

labdaca (Libythea), 354.
labiatus (Dicotyles), 614.
Lachnocnema, 354.
lacteguttata (Siculodes), 493.
lacteus (Tagiades), 360.
laevicolle (Zamium), 364.
laevipennis (Anthribus), 297.
— (Phaenithon), 293, 294.
lafayaria (Racheospila), 506.
Lagopezus, 272, 274–5.
Lagyra, 13.
Lalage, 208.
Lambula, 416.
Lampropteryx, 57.
languescens (Callipia), 539.
Lanius, 210, 431, 434.
lappouica (Limosa), 187.
lara (Leptomyrina), 354.
larima (Belenois), 358.
Larinopoda, 354.
larydas (Lycaenesthes), 356.
Lasioceros, 380, 381.
Lasiochara, 392.
Lasiolimacos, 388, 389.
latata (Cimicodes), 137.
lateralis (Eusphyrus), 291.
— (Petrogale), 365, 366.
— (Piezonemus), 276.
lateripictus (Caccorhinus), 236.
latibrunnea (Anisoperas), 129.
laticaudata (Psamathia), 496.
laticlava (Opisthoxia), 542.
latifascia (Isochromodes), 149.
— (Pergama), 165.
latifasciata (Plauema), 348.
latimargo (Drucia), 20.
— (Ephialtias), 16.
latimedia (Stenalcidia), 115, 556.
Landosia, 576.
lautus (Xenocerus), 230.
lebona (Hypolycaena), 354.
lecideata (Bryoptera), 582.
leda (Eronia), 358.
— (Melanitis), 344.
leighata (Chrysocraspeda), 466.
leighi (Gonodela), 478.
lemnos (Lycaenesthes), 356.
lemolea (Spalgis), 354.
leodorata (Cirsodes), 576.
— (Mixopsis), 576.
leomdas (Papilio), 360.
leopardina (Eudule), 511.
lepeletier (Cyclopides), 362.
lepidaria (Comibaena), 20.
leprosata (Oenoptila), 120.
leptogrammica (Macropygia), 182.
Leptomeris, 514.
Leptomyrina, 354.
Leptoptila, 184.
Leptosia, 356.
lettiensis (Graucalus), 207.
— (Ptilinopus), 178, 179.
— (Ptilopus), 178.
— (Zosterops), 213.
leucocephalus (Himantopus), 186.
leucoceraria (Racheospila), 25.
Leucoctenorrhoë, 526, 527.
leucogaster (Haliaetus), 176, 189.
leucogastra (Sylvia), 433.
Leucolithodes, 582.
leucomelaena (Amaurornis), 181.
— (Gallinula), 184.
leucomelas (Gymnognathus), 251.
Leuconotha, 6.
leucopus (Peromyscus), 643.
Leucoreas, 12, 13.
leucorhynchus (Artamus), 221.
Leucosticha, 350.
Leuculopsis, 101.
liara (Hypolycaena), 354.
libya (Melanitis), 344, 451.
Libythea, 354.
lichas (Charaxes), 352.
lichenifera (Acrotomodes), 564.
lichenosa (Rhodomena), 74, 75.
ligata (Delias), 313.
ligereza (Rhopalodes), 527.
lignicolor (Cabira), 125.
— (Ptyehopoda), 41.
liguosata (Alydda), 62.
Ligonia, 513.
ligures (Lycaenesthes), 339, 356.
lilacina (Cambogia), 85.
— (Psaliodes), 522.
lilaua (Pinacopteryx), 358.
limitata (Epirrhoe), 517.
limnaëtus (Spizaetus), 189.
Limnas, 344.
limniace (Tirumala), 344.
Limonites, 187.
Limosa, 187.
limosa (Cymatophora), 552.
Linaria, 459.
linda (Eucymatoge), 87, 529.
lineata (Ophthalmophora), 95.
lineatus (Ormiscus), 289.
— (Parexillus), 284, 285.
lineifer (Phloeobius), 240.
lineiger (Anthribus), 299.
lineola (Nessiara), 233, 234.
lingeus (Cacyreus), 356.
Linota, 459.
lintearia (Loxapicia), 152.

Lipomelia, 37, 38.
lippa (Sangalopsis), 99.
lisera (Psaliodes), 69, 522, 523.
Lissochlora, 21, 504.
lita (Eurytela), 350.
Litocerus, 233, 254.
liturata (Heterusia), 89, 538.
livia (Columba), 432.
Lohivanellus, 186, 188.
Lobophora, 527.
locuples (Eriopygidia), 49.
Lomaspilis, 470.
Lomographa, 92.
longicaudatus (Putorius), 650.
longicornis (Phaenithon), 293.
longicorpus (Eucymatoge), 87.
longidiscata (Perixera), 487.
longipennata (Eucymatoge), 529.
longipennis (Chlorochaeta), 464.
longistria (Josia), 17.
longitarsis (Phaenithon), 292.
Lophochorista, 22.
Lophopygia, 495.
Lophotosoma, 7, 495.
lormieri (Papilio), 360.
losinga (Euphaedra), 352.
Loxapicia, 132, 152.
Loxia, 456, 460.
Loxiorhiza, 494.
Lozogramma, 561.
Luceronia, 358.
lucetia (Eagris), 360.
lucida (Zizera), 356.
lucidus (Chrysococcyx), 200.
lucisquamata (Epiplema), 494.
lucivittata (Hedyle), 499.
lucretia (Pseudacraea), 350.
lucretius (Charaxes), 352.
ludisignata (Heterusia), 90.
lugubris (Lagopezus), 275.
lunatus (Epitaphius), 240.
— (Euparius), 303, 306, 307.
lunulata (Nervicompressa), 390.
Luricata, 611.
lurida (Anisoperas), 565.
lutea (Hyperythra), 491, 492.
luteiplaga (Sangalopsis), 100.
lutzi (Pulex), 614, 620.
lyaeus (Papilio), 360.
Lycaenesthes, 339, 354, 356.
Lyces, 16.
lycia (Acraea), 346.
lycoa (Acraea), 348.
Lycopsylla, 602.
Lymantria, 407, 408.
lysimon (Zizera), 356.

Macaduma, 421.
machacosa (Hesperia), 360.
mackinnoni (Papilio), 360.
mackloti (Dicaeum), 214.
Macro, 647.
Macrocephalus, 296.
macrocerus (Anthribus), 235.
— (Blaberops), 238, 239.
Macroglossum, 438.
Macropus, 222, 223–5, 365.
Macropygia, 182.
macrorhynchos (Corvus), 221.
macrura (Perameles), 227, 228.
macrurus (Conilurus), 222.
— (Hapalotis), 222.
maculidiscata (Anisodes), 509.
maculosata (Isochromodes), 572.
maculosus (Hemipodius), 177.
— (Turnix), 177.
madagascariensis (Precis), 348.
madeirensis (Petronia), 450.
Maenas, 412.
magna (Macropygia), 182.
magnidiscata (Anisodes), 29.
— (Craspedia), 466.
— (Emmiltis), 466.
magnifica (Sindris), 447.
magnipalpata (Cyclomia), 62
magnipuncta (Tephroclystia), 532.
magnirostris (Esacus), 187.
— (Oedicnemus), 187.
maior (Dendrocopus), 432.
Malacopsylla, 603, 604–7.
malaicus (Anthribus), 235.
malathana (Catochrysops), 340, 356.
malayanus (Dysphania), 486.
malefida (Eudule), 81.
malina (Hydata), 21.
Malurus, 210.
mamestrina (Cidariophanes), 556.
manadensis (Pisorhina), 190, 191.
mandanes (Mycalesis), 344.
manilensis (Caprimulgus), 202.
manillensis (Caprimulgus), 202.
marcaria (Azelina), 567.
marcescens (Archiclora), 465.
mardania (Euryphene), 352.
margaritacea (Cophocerotis), 540.
margaritaceus (Castalius), 356.
margaritata (Artitropa), 362.
marginata (Odontoptila), 38.
marginepunctata (Imaus), 410.
mariauna (Gymnognathus), 243.
marmoreus (Eugonodes), 302.
— (Mecotropis), 230.
Marmosa, 634.
Marpesia, 350.
marpessa (Neptis), 350.
martha (Gymnognathus), 250.
martialis (Ceratopsylla), 653.
martius (Mycalesis), 344.
mathanaria (Pergama), 165.

mathias (Chapra), 362.
matuta (Mycalesis), 344.
maugei (Geopelia), 182.
maugeus (Geopelia), 182
— (Columba), 182.
mea (Mycalesis), 349.
Mecocerus, 141.
Mecocerus, 231, 238.
mechowi (Charaxes), 334, 352.
Mecotropis, 230.
mediolineata (Anisodes), 30.
medius (Anthus), 217.
medon (Euphaedra), 352.
medusa (Leptosia), 356.
meeki (Delias), 316.
— (Eubordeta), 320.
— (Porthesia), 398.
Megalopalpus, 354.
Megalurus, 210.
Megapodius, 176.
Megapsylla, 603, 604.
melaleucus (Corrhecerus), 271.
Melanergon, 372.
Melanitis, 344, 451.
melanocephala (Sylvia), 433.
melanogenys (Falco), 190.
melanolenca (Muscicapula), 204.
melanoleucos (Hydrocorax), 189.
— (Phalacrocorax), 189.
melanopa (Nisbada), 417.
melanope (Motacilla), 217.
melanops (Corvus), 208.
— (Graucalus), 208.
Melanoscia, 111–13, 555.
melanostigma (Haggardia), 473.
melanotus (Porphyrio), 185.
melas (Goniocloeus), 261, 262.
Meleaba, 498.
melicerta (Neptis), 350.
Melinda, 341.
Melinodes, 153, 573, 574.
Melochlora, 22, 504.
membranacea (Astyochia), 545.
memor (Euchontha), 16.
menestheus (Papilio), 360.
menetriesi (Gymnognathus), 253.
mephasaria (Pyrinia), 171.
mercedonia (Melinda), 344.
meridionalis (Troides), 310.
Merops, 202.
merula (Turdus), 431, 432.
Mesedra, 153–6.
Mesotrophe, 32.
Mesoxantha, 350.
Messaras, 318.
Metachirus, 641.
metachromata (Trotorhombia), 498.
metallica (Calornis), 221.
— (Columba), 181.
— (Hemiopidisis), 6.
metallica (Saccoploca), 497.
Metallochlora, 486, 487.
Metanema, 156, 576.
metis (Cyclopides), 362.
Metoponia, 459.
mexicata (Microgonia), 159.
Miantonata, 22.
micans (Parnara), 362.
Microgonia, 140, 156–60, 574, 575.
microptilota (Chloroclystis), 86.
microsticha (Delias), 315.
Microtus, 642.
Microxydia, 160, 575, 576.
micyclus (Everes), 356.
midas (Cyclopides), 362.
migrator (Oriolus), 218, 219.
mikado (Chaetopsylla), 645.
milca (Vanessula), 348
miles (Lobivanellus), 186, 188.
Milionia, 321.
mima (Certima), 164, 569.
— (Hypolimnas), 360.
Mimaeraea, 337, 354.
Mimeta, 219.
mimetaria (Hypometalla), 563.
mimeticus (Papilio), 360.
mimicus (Messaras), 318.
Mimogonodes, 576.
Mimoprora, 117, 161.
Mimosema, 162.
mimula (Certima), 164.
miniata (Isochromodes), 573.
— (Psaliodes), 66.
minimaria (Ptychopoda), 468.
minor (Calornis), 220, 221.
— (Dasychira), 405.
— (Goniocloeus), 262.
— (Halcyon), 197.
— (Poecilochlora), 506.
minutus (Chactaphractus), 608.
— (Dasypus), 604, 608.
mira (Delias), 315.
miranda (Eubordeta), 320.
mirifica (Delias), 314.
— (Perizoma), 60.
mirza (Azanus), 356.
misippus (Hypolimnas), 348, 350.
Misocalius, 201.
mitchelli (Phascolomys), 603.
Mixopsis, 162, 163, 576, 577.
modesta (Arhodia), 485.
— (Columba), 181.
— (Cymatophora), 552.
— (Phrygionis), 91.
— (Pygmaeomorpha), 387.
— (Turacoena), 181.
mohozutya (Baoris), 362.
mohoztza (Kedestes), 362.
molitor (Euparius), 304, 305, 306.
mollieulata (Racheospila), 26.

mollipilosus (Pogonomys), 600.
moluccensis (Tinnunculus), 190.
mombasae (Craspedia), 467.
— (Emmiltis), 467.
Monarcha, 175, 207.
mongolus (Charadrius), 186.
— (Ochthodromus), 186.
Monocloeus, 255–60.
mononis (Caprimima), 443.
Monroa, 555.
monteironis (Hypolimnas), 350.
moranti (Parosmodes), 362.
Morinella, 186.
Morova, 483.
Morphomima, 7, 8.
mosonica (Nessiara), 234.
mosonicus (Acorynus), 232.
Motacilla, 209, 217, 431.
motitensis (Passer), 459.
Muletia, 615.
mülleri (Oriolus), 218, 219.
multipunctata (Anisodes), 509.
— (Cerura), 381.
munda (Mesedra), 154, 155.
Munia, 175, 218.
munita (Azelina), 567.
muricolor (Ptychopoda), 488.
murinus (Polyptychus), 435.
Mus, 222, 223, 598, 599.
Muscicapa, 204.
Muscicapula, 204.
musicus (Turdus), 431.
muscivaria (Pseudapicia) 169, 170.
muscosa (Cymatophora), 108.
musculi (Ctenopsyllus), 646, 647.
Mustela, 650.
Mycalesis, 319, 344.
Myiagra, 207.
Myiothera, 209.
Mylothris, 341, 356, 358.
Myrina, 354.
Myrioblephara, 475.
Myrmecoptera, 449.
mystica (Acraea), 327, 346.
Myzomela, 174, 175, 215.

nandensis (Catochrysops), 339, 356.
nanus (Gymnognathus), 248.
napariata (Craspedia), 35.
napassa (Anisolasia), 46.
narcissus (Mylothris), 358.
Narosa, 386
Nasiterna, 175.
nasuta (Perameles), 623.
natalensis (Precis), 348.
— (Semiothisa), 479.
— (Spindasis), 354.
nazada (Aplorama), 91.
neander (Andronymus), 362.
neanthis (Charaxes), 352.
nebuligera (Anisodes), 27, 28.
nebulosa (Mycalesis), 344.
(Salamis), 452.
nebulosus (Asemorhinus), 234.
— (Gymnognathus), 242.
Nectarinia, 214.
neglecta (Collocalia), 203.
— (Zosterops), 213
neis (Melochlora), 22.
Nelo, 98, 101.
Nematocampa, 163, 577.
nemetes (Neptis), 350.
Nemotrichus, 267–71, 275.
Neobapta, 92, 93.
neobule (Acraea), 346.
Neocoenyra, 344.
Neocrasis, 23, 506.
Neoctodon, 617.
Neodezia, 541, 542.
Neodirades, 8.
Neodora, 133.
Neofidonia, 113, 555.
Neonemoria, 23, 24.
Neoplena, 496.
Neopolita, 470.
Neopsittacus, 194.
Neotoma, 643.
Nephele, 436.
nepticulata (Ptychopoda), 41.
Neptidopsis, 350.
Neptis, 329–31, 350.
nervaria (Perigramma), 105.
Nervicompressa, 389–92.
Nessiara, 233, 234, 254.
neumanni (Pseudacraea), 350.
nexilinea (Psaliodes), 66.
neyi (Delias), 312.
niavius (Amauris), 344.
nicetaria (Petelia), 476.
nicomedes (Neptis), 350.
nictitans (Psaliodes), 67.
niepelti (Delias), 316, 317.
nietneri (Apolecta), 237.
niger (Monocloeus), 260.
— (Nemotrichus), 268, 270.
nigra (Azelina), 132.
nigrata (Zeuzerodes), 2.
nigricans (Dinawa), 386.
— (Hirundo), 204.
— (Petrochelidon), 204.
nigricincta (Blechroma), 503.
nigricomma (Semiothisa), 127.
nigricornis (Agraptochlora), 464.
nigricosta (Perigramma), 104.
— (Ptychopoda), 42, 513.
nigriplaga (Amaurinia), 526.
— (Urocalpe), 78, 79.
nigrirubrata (Eriopygidia), 518.
nigrisignata (Nipteria), 547.
nigristigma (Neofidonia), 113.

nigritarsis (Euparius), 306.
— (Phaenithon), 294, 295.
nigrithorax (Tephroclystia), 532.
nigroapicalis (Euproctis), 401.
nigrofasciata (Cidaria), 58.
nigrolineata (Hammaptera), 52.
nigroliturata (Cimicodes), 137.
nigrostigmata (Squamosala), 393.
nigrostrigata (Dasychiroides), 406.
Ninox, 191, 192.
Nipteria, 101–4, 545–50.
nireus (Papilio), 360.
Nishada, 417.
uisoria (Fringilla), 218.
— (Muuia), 218.
— (Sylvia), 433.
niteus (Scopelodes), 385.
nitidia (Brachysticha), 134.
nivalis (Passerina), 431.
nivea (Hema), 420.
nivestrata (Thalassodes), 322.
niveus (Imaus), 409.
nobilis (Papilio), 360.
noctuodes (Buttia), 481.
nodosa (Psaliodes), 523.
nodosus (Euparius), 305.
notabilis (Stigmatops), 175, 215.
notata (Semiothisa), 479.
Notodonta, 380.
Notophoyx, 188.
novaeguineae (Ceratophyllus), 629.
novaehollandiae (Ardea), 188.
— (Notophoyx), 188.
— (Scythrops), 175.
novaezealandiae (Limosa), 187.
novaguineensis (Lymantria), 407.
novaguinensis (Euproctis), 402.
novella (Tephronia) 115.
novemcincta (Tatusia), 614.
novus (Lycopsylla), 602.
ntebiae (Acraea), 346.
nubicanus (Equus), 595.
nubicus (Pulex), 611.
nubifera (Certima), 136.
nubilata (Thamnonoma), 563.
nubilus (Eusphyrus), 291.
— (Gymnognathus), 246.
— (Olenecamptus), 365.
numae (Ceratophyllus), 637, 638, 639.
numbalensis (Saugala), 99.
numenes (Charaxes), 352.
Numenius, 186.
nummifera (Certima), 559.
— (Oenothalia), 559.
nyanza (Telipna), 335, 354.
nyassana (Phrissura), 358.
Nycticorax, 188.

Oberonia, 356.
obesula (Perameles), 227, 228.
obesus (Euparius), 303.
obliqua (Birthama), 385.
obliquaria (Apiciopsis), 131.
— (Hetereraunis) 106.
obliquata (Dichorda), 503.
oblitaria (Nipteria), 103.
obliterata (Catascia), 115.
— (Stmopteryx), 172.
obscura (Calornis), 221.
— (Pseudaeraea), 333, 350.
obscurata (Apicia), 130.
— (Neocrasis), 23.
obscurissima (Pseustoplaca), 164.
obscurus (Caccorhinus), 236.
— (Sorex), 652.
obsoleta (Dasychiroides), 405, 406.
obstructa (Phellinodes), 14.
obtusus (Nemotrichus), 269, 271.
obumbrata (Gegenes), 362.
occidentalis (Passer), 459.
— (Tinnunculus), 190.
occidentalium (Asterope), 350.
ocelusa (Melanoscia), 113.
occulta (Callipia), 80.
— (Nipteria), 547.
ocellata (Ninox), 191, 192.
ochi (Ceratophyllus), 628.
ochracea (Graphosia), 415.
— (Neptis), 330, 350.
— (Omichlis), 376.
— (Poultonia), 354.
ochrascens (Poultonia), 336.
ochreiplaga (Hydriomena), 53.
ochreomaculata (Asura), 424.
ochricomata (Auisodes), 30.
ochricostata (Triphosa), 524.
ochrilinea (Thysanopya), 125.
ochriplaga (Ira), 144.
ochriscripta (Azelina), 133.
ochropurpuraria (Cabira), 93.
ochrosoma (Eucymatoge), 86.
Ochthodromus, 186.
ockendeni (Xylophanes), 439.
octavia (Precis), 348.
octavii (Ceratophyllus), 638.
Octodon, 620.
oculatus (Physopterus), 231.
Odezia, 541, 542.
Odonestis, 396.
Odontopera, 479.
Odontoptila, 38, 39.
Oedicnemus, 187.
Oenochroma, 485.
oenone (Precis), 348.
Oenoptila, 120–22, 559.
Oenothalia, 559.
Oeonistis, 420.
Olenecamptus, 365.
Oligopleura, 58.
olivacea (Pero), 578.

olivata (Aeschropteryx), 128.
— (Anisoperas), 565.
— (Microgonia), 575.
— (Sterrha), 515.
— (Trichosterrha), 515.
olivescens (Neotidonia), 555.
Omichlis, 375–77.
onager (Asinus), 591.
— (Equus), 583, 585, 587, 588, 590, 591.
Onychogale, 227.
Oospila, 24, 504, 505.
opalinus (Cekaenorrhinus), 360.
opalizans (Ira), 143, 144.
ophione (Neptidopsis), 350.
ophiopsis (Gymnognathus), 242.
ophiusa (Hypoleucis), 362.
Ophthalmodes, 490.
Ophthalmophora, 94–6.
opis (Cynandra), 350.
Opisthoxia, 542, 543.
Opodiphthera, 601.
opossum (Metachirus), 641.
oppositata (Ischnopteris), 119
Opsirhina, 395.
oreas (Acraea), 329, 346.
Oreonoma, 538.
Oreta, 461.
orientalis (Eudynamis), 201.
— (Eurystomus), 195.
orina (Acraea), 346.
orinata (Acraea), 346.
Oriolus, 218, 219.
orion (Ophthalmophora), 94, 95.
orithya (Precis), 348.
Ormiscus, 285, 286–90.
ornatus (Eugomus), 301.
— (Merops), 202.
— (Ormiscus), 287.
Ornithoptera, 311.
ornytion (Delias), 312.
oroanda (Thysanopyga), 125.
orpheus (Pachycephala), 211.
orsitaria (Microxydia), 576.
ortegae (Papilio), 453.
Orthoprora, 522.
orthosiodes (Hemixera), 139.
Orthotropis, 254.
Osica, 374.
osiris (Catachrysops), 356.
— (Cyllopoda), 15.
ossicolor (Psaliodes), 67.
Otomys, 611, 636, 638.
ottonis (Ptilinopus), 178, 179.
oxione (Eurypheue), 352.
Oxydia, 157.
Oxylides, 354.
Oxypalpus, 362.
Ozotomerus, 297.

Pachycephala, 210–13.
pachymerus (Phlocobius), 240.
Padraona, 362.
Paida, 444, 446.
paidiformis (Pseudospiris), 444, 446.
Pais, 445.
paja (Perusia), 579.
palcata (Hypolepis), 521.
pallasi (Passer), 458.
pallene (Aphnaeus), 354.
pallicostata (Cimicodes), 137.
pallida (Agraptochlora), 463.
— (Hypolais), 431.
— (Munia), 218.
— (Nipteria), 548.
— (Psaliodes), 66.
pallidiceps (Rhipidura), 205, 206.
pallidicosta (Tephroclystia), 533.
pallidifimbria (Isochromodes), 150.
pallidifrons (Certima), 136.
pallidimargo (Ulinra), 491.
pallifrons (Epiplema), 2.
palliolatus (Cuculus), 201.
— (Misocalius), 201.
palposus (Ceratopsylla), 652.
palumbata (Isochromodes), 150.
panda (Tephroclystia), 530.
pantheraria (Lomaspilis), 470.
pantherata (Leucolithodes), 582.
paphianus (Charaxes), 352.
Papilio, 310, 342, 343, 360, 453.
papuana (Opodiphthera), 601.
par (Pachycephala), 211, 212.
Parabasis, 428, 429.
Paraceryx, 383.
Parachrysops, 369.
Paracomistis, 148, 163, 164, 578
Paracomucha, 488, 489.
Paradisea, 367.
paradisea (Troides), 311.
Paradohertya, 421.
paradoxa (Euphaedra), 333, 353.
Paradoxodes, 164.
paragea (Planema), 348.
Paragonia, 167.
parallelaria (Emproctis), 399.
— (Eusarca), 153.
— (Loxapicia), 132.
Paranthribus, 283.
Paraplodes, 24, 25.
Parazeuzera, 384.
Pardaleodes, 362.
Pardopsis, 345.
Parelodina, 368.
Parexillis, 284, 285.
parhassus (Salamis), 348.
parmeno (Gnophodes), 344
Parnara, 362.
Paromala, 58.
Parosmodes, 362.
parrhasiata (Callipia), 80, 539.

passalus (Macroglossum), 438
Passer, 432, 457–9, 460.
Passerina, 431.
particolor (Eugonus), 301.
— (Microgonia), 574.
partita (Nipteria), 548.
— (Xanthomima), 489.
parva (Mihonia), 321.
parvidens (Aeschropteryx), 128.
parvula (Dyspteris), 527.
parvulus (Euparius), 307.
pauper (Agathia), 463.
pectiniceps (Ctenopsyllus), 647.
pectoralis (Burgena), 444.
peculiaris (Papilio), 342, 360.
pelasgis (Precis), 348.
pelasgius (Acraea), 346.
Pelecanus, 189.
peneleos (Acraea), 346.
penicillata (Bettongia), 623.
— (Petrogale), 365.
— (Phascogale), 228.
penicillatus (Conilurus), 223.
pentapolis (Acraea), 346.
Pentila, 354.
Peradorcas, 226.
Perameles, 227, 228, 623.
perciliata (Tephroclystia), 87.
perdecora (Anapalta), 44.
Perdix, 177.
peregrina (Trichoclystis), 535.
peregrinus (Falco), 190.
perenna (Acraea), 346.
perfumosa (Craspedia), 512.
— (Emmiltis), 512.
perfusa (Microgonia), 156, 157.
— (Rhopalodes), 527.
Pergama, 165.
Peribolodes, 126.
Perigramma, 104, 105.
Perixera, 487, 509.
Perizoma, 59, 60, 78.
pernigrata (Erebochlora), 47, 48, 517.
Pero, 165, 578.
Peromyscus, 643.
peronii (Geocichla), 208, 209.
perpaupera (Sarangesa), 360.
perpendiculata (Dichorda), 503.
perplexata (Dyscia), 476.
— (Fisera), 492.
personata (Coblepyris), 207.
— (Graucalus), 207.
personatus (Geoffroyus), 194, 195.
— (Graucalus), 207.
— (Psittaens), 194.
persordida (Leuconotha), 6.
perspicillatus (Artamus), 221.
perspicua (Henotesia), 344.
pertusa (Sarangesa), 360.
Perusia, 165, 166, 579.
peruviana (Brabirodes), 528.
pervasata (Psaliodes), 68.
pervia (Acraea), 346.
Petaurus, 227.
Petelia, 122, 123, 476, 477.
petiverana (Tirumala), 344.
petrcia (Pentila), 354.
Petrochelidon, 204.
Petrogale, 222, 225, 226, 365, 366.
Petronia, 430, 433.
petronia (Petronia), 430.
petrosa (Caccabis), 432.
phaegopterata (Ischuopteris), 118.
— (Syrtodes), 118.
Phaenithon, 292-5.
Phacochlaena, 15, 18.
phacopus (Numenius), 186.
Phalacrocorax, 189.
phalantha (Atella), 348.
pharis (Luceronia), 358.
pharsalus (Acraea), 346.
Phascogale, 222, 228.
Phascolomys, 603.
Phanlimia, 307.
phegea (Elymnias), 344.
Phellinodes, 14, 499.
Philaeterus, 458.
philander (Andronymus), 362.
phillippinensis (Anthribus), 235.
philippus (Hypolycaena), 354.
Philiris, 369.
philyra (Astyochia), 102.
Phlebosphales, 60, 61.
Phlegoenas, 184.
Phloeobius, 235, 239-41.
phoebe (Phrissura), 358.
phoenicura (Amanrornis), 184.
phoenicurus (Amaurornis), 184, 185.
— (Rallus), 184.
pholata (Pyrinia), 171.
phorcaria (Calyptocome), 32.
phorcas (Papilio), 360.
Photoscotosia, 535.
Phragmatobia, 442.
Phrissura, 358.
Phrygionis, 91, 92.
Phylaria, 356.
Phyllodonta, 166-8, 579.
phyllodontaria (Colpodonta), 569.
Physopterus, 231.
picaria (Elphos), 490.
— (Polypoetes), 18.
picta (Psaliodes), 68.
picticollis (Anthribus), 297.
pictifimbria (Prasinocyma), 465.
pictus (Phaenithon), 295.
Pieris, 313, 314.
Piezocorynus, 272, 275, 283.
Piezonemus, 275, 276.
pigea (Pinacopteryx), 358.

Pigia, 39.
pilaris (Turdus), 431.
pilicornis (Nemotrichus), 270.
pimpinellata (Tephroclystia), 551.
Piuacopteryx, 341, 342, 358.
pinguis (Selidosema), 477.
pinodoides (Epitola), 354.
pintada (Anisodes), 31.
pirata (Phascogale), 228.
Pisoraca, 29, 467, 509.
Pisorhina, 190, 191.
placidus (Acleros), 362.
plagiatus (Anthribus), 300.
plagifer (Piezocorynus), 277, 278, 279, 281.
plagosus (Chrysococcyx), 200, 201.
— (Cuculus), 201.
plana (Neonemoria), 24.
planatus (Anthribus), 239.
Planema, 333, 348.
planemoides (Papilio), 360.
planiplaga (Psaliodes), 69.
plantilla (Euryphura), 352.
planus (Anomalipus), 450.
Platalea, 188.
Platycercus, 195.
Plemyriopsis, 74, 78.
plenilunata (Perigama), 165.
Pleuroceres, 286.
plicata (Eagris), 360.
ploceisoma (Passer), 458.
Plocepasser, 458.
ploetzi (Acleros), 362.
— (Hesperia), 360.
plumbescens (Hypolepis), 55.
plumbinotata (Gagitodes), 519.
plumosa (Paracomistis), 578.
plumosaria (Monroa), 555.
Plutodes, 470.
Poecilalcis, 491.
Poecilochlora, 505, 506.
poecilurus (Chrysococcyx), 200.
poecilus (Nemotrichus), 268, 271.
poggei (Planema), 348.
— (Uranthauma), 356.
— (Xanthospilopteryx), 444.
Pogonomys, 600.
polia (Temnora), 437.
policenes (Papilio), 360.
Poliolimnas, 185.
polistratus (Theretra), 440.
polius (Euparius), 303.
Polla, 172.
pollux (Charaxes), 352.
polycyma (Isodiscodes), 521.
polyodon (Equus), 585.
Polyommatus, 356.
Polypoetes, 18.
Polyptychus, 435.
pomidiscata (Anisodes), 510.
pomponia (Acraea), 346.
poppea (Mylothris), 356.
poppei (Typhloceras), 641.
Porona, 560.
Porphyrio, 185.
Porthesia, 397, 398.
Poultonia, 336, 337, 354
poultoni (Mimacraea), 337, 354.
praecisaria (Perusia), 166.
praecurvata (Aeschropteryx), 564.
praelata (Darna), 500.
praelatata (Rhodomena), 74.
praelunteata (Ischnopteris), 558.
praemundata (Rhodomena), 74.
praeponina (Acraea), 346.
Prasinocyma, 465.
prasinorrhous (Ptilinopus), 180.
Pratincola, 209.
pratti (Arguda), 395.
(Contheyla), 385.
— (Dasychiroides), 406, 407
— (Deilemera), 412.
— (Diacrisia), 412.
— (Euproctis), 400.
— (Imaus), 409.
— (Lasiolimacos), 388, 389.
— (Omichlis), 377.
— (Parabasis), 429.
— (Stauropus), 380.
preciosa (Heterusia), 538.
Precis, 348.
pretiosa (Heterusia), 90.
proboscidcrus (Macro), 647.
Procavia, 609.
Prohydata, 21.
promontoria (Rhacospila), 26.
Propasser, 456.
proserpina (Melanergon), 372.
— (Taragama), 394.
prospero (Papilio), 453.
Prostoma, 123.
Prothoe, 366.
proxima (Celerena), 485.
proximata (Metallochlora), 487.
proximus (Celaenorrhinus), 360.
prunicolor (Hypolepis), 56.
— (Microgonia), 158, 159.
— (Oenoptila), 121, 122.
przevalskii (Equus), 585.
Psaliodes, 54, 61-71, 521-3, 525.
Psamathia, 496.
Pseudacraea, 331-3, 350.
pseudagyrtes (Ctenophthalmus) 641.
Pseudapicia, 153, 169, 170.
Pseudapiconoma, 441, 442.
Pseudargyrnis, 350.
Pseudasellodes, 39, 40.
pseudegina (Acraea), 328.
Pseudilema, 418, 419.
Pseudochirus, 222, 227.
Pseudodreata, 371

Pseudogargetta, 373.
Pseudoneptis, 350.
pseudouyma (Phyllodonta), 579.
Pseudospiris, 444, 446.
Pseustoplaca, 164.
Psittacus, 192-5.
Psittenteles, 193.
Psodopsis, 560.
psyttalea (Amauris), 341
Pterocypha, 73.
Pteropus, 222, 597.
Ptilinopus, 177-80.
Ptilopus, 177, 178, 179.
Ptistes, 195.
Ptochophyle, 467.
Ptychopoda, 40-42, 468, 487, 488, 511, 513.
pudicaria (Bronchelia), 551.
pujoli (Erotylopsis), 308, 309.
pulchelloides (Siculodes), 1.
pulchra (Alcyone), 196.
— (Lasiochara), 392.
— (Paida), 444-6.
— (Tarucus), 356.
pulchrifascia (Acidalia), 515.
Pulex, 602, 603, 608-20, 634.
pulverata (Mixopsis), 576.
pulverosa (Cusiala), 472.
pulvina (Semalea), 362.
punctata (Aplodes), 19.
— (Lissochlora), 504.
punctatissima (Pardopsis), 345.
punctatostrigata (Maenas), 412.
punctatus (Acorynus), 232.
— (Oberonia), 356.
punctulata (Munia), 218.
punctulosa (Anisodes), 31.
punctum (Siculodes), 493.
puritana (Phyllodonta), 167.
purpurascens (Aslanga), 354.
purpurea (Petelia), 123.
purpureoviridis (Racheospila), 26.
pusilla (Metoponia), 459.
pustulata (Eucyclotropis), 273.
— (Heterephyra), 37.
Putorius, 650, 651.
Pycnoneura, 13, 498.
pygarga (Polyptychus), 435.
pygargus (Circus), 431.
pygaria (Thysanopya), 125.
pygmaea (Acanthis), 459.
— (Acrobates), 626.
— (Linaria), 459.
— (Linota), 459.
Pygmaeomorpha, 387.
pylades (Eucyclotropis), 274.
— (Papilio), 360.
Pyrameis, 348.
Pyrgita, 458.
Pyrinia, 170, 171, 580.
pyrrhoptera (Fringilla), 457.
Pyrrhula, 457.
pythodoris (Charaxes), 352.
pytyopsittacus (Loxia), 460

quadrata (Orthotropis), 254.
quadrilinea (Leucoctenorrhoe), 526, 527.
quadrilineata (Polla), 172.
— (Sphacelodes), 172.
quadrirubrata (Ptychopoda), 42, 513.
quadrisignatus (Cyclopides), 343.
quadruplicaria (Heterusia), 89.
quagga (Euparius), 308.
quinquelinearia (Monroa), 555.
— (Synelys), 514.
quirinalis (Acraea), 326.
quirnalis (Acraea), 346.

raaltenii (Perdix), 177.
— (Synoicus), 177.
Racheospila, 22, 25, 26, 506.
radiata (Iridopsis), 554.
— (Nelo), 98.
radiosa (Eriopygidia), 51.
raffrayi (Belenois), 358.
raggiana (Paradisea), 367.
Rallina, 184.
Rallus, 184.
Rapala, 354.
Ratiaria, 91.
rattraya (Nephele), 436.
rattrayi (Temnora), 437.
rattus (Mus), 223, 598.
rauana (Preeis), 348.
rectilinea (Epiplema), 3.
reducta (Cymatophora), 553.
regia (Platalea), 188
— (Sangala), 98.
regularis (Terias), 358.
Regulus, 433.
reichenowi (Rhipidura), 206, 207.
resta (Xylophanes), 439.
restricta (Oospila), 504.
restrictata (Cambogia), 85.
reticulata (Cambogia), 84.
rex (Papilio), 360.
rhabdophora (Gonodela), 478.
rhesus (Theretra), 440.
Rhinura, 74, 78.
Rhipidura, 205-7.
rhodaria (Microgonia), 574.
Rhodochlora, 506.
Rhodomena, 74, 75.
Rhodophthitus, 471.
rhodosticta (Leucoreas), 13.
rhodostigma (Anisodes), 30, 31.
rhodotus (Xylophanes), 440.
rhombeus (Mecocerus), 238.
rhombifer (Monocleus), 257, 258.

Rhopalista, 75, 76.
Rhopalocampta, 362.
Rhopalodes, 527.
ribbei (Prothoë), 366.
ribensis (Diestogyna), 352.
richardsoni (Putorius), 650, 651.
ridleyanus (Papilio), 360.
riedelii (Lalage), 208.
riggenbachi (Pulex), 611.
rivolii (Ptilinopus), 180.
robustus (Eugonus), 301.
— (Macropus), 224, 225, 365.
Roeselia, 415.
rojiza (Orthoprora), 522.
rosa (Craspedia), 34.
rosacea (Asura), 426.
— (Carpophaga), 180.
— (Columba), 180.
roseipileum (Ptilinopus), 179.
rosenbergi (Typhloceras), 639.
roseoliva (Anapalta), 44.
— (Calyptocome), 32.
roseoviridis (Rhodomena), 75.
roseovittata (Rhodophthitus), 471.
rostrifera (Epiplema), 4.
rothschildi (Amphoraceras), 428.
— (Chrysocraspeda), 322.
— (Petrogale), 366.
— (Xylophanes), 439.
Rothschildia, 601.
rubella (Heterorachis), 465.
rubellicincta (Tephroclystia), 87.
rubiada (Cambogia), 82.
rubianus (Troides), 654.
rubicollis (Zeuctostyla), 105.
rubiginea (Taragama), 394.
rubra (Mimoprora), 161.
rubricata (Hyperythra), 491.
rubriceps (Agraptochlora), 464.
rubricosta (Mylothris), 358.
rubripileum (Neopsittacus), 194.
rubriplaga (Darna), 15.
rubritorquis (Trichoglossus), 193.
rubrobasalis (Pinacopteryx), 358.
rubroradiata (Euproctis), 400.
rueppelli (Mylothris), 341, 356.
rufa (Dinawa), 386.
— (Mimosema), 162.
rufaria (Microgonia), 140.
rufata (Hymenomima), 109.
rufescens (Paranthribus), 283.
ruficana (Bryoptera), 551.
ruficollis (Limonites), 187.
— (Phaenithon), 295.
ruficostaria (Erebochlora), 47, 517.
rufidorsalis (Passer), 458.
rufifimbria (Sicnlodes), 493.
— (Spargania), 77.
rufifimbriata (Microxydia), 575.
rufigrisea (Isochromodes), 150, 151.
rufigrisea (Spilocraspeda), 151.
rufigula (Myiagra), 207.
rufipectus (Passer), 458.
rufiplaga (Oospila), 505.
rufistigma (Anisodes), 510.
rufivena (Eriopygidia), 50, 518.
rufiventris (Rhipidura), 205, 206.
rufocinctus (Passer), 459.
rufofasciata (Omichlis), 377.
rufomerus (Chrysococcyx), 199, 200.
rufulata (Anisodes), 510.
rufulus (Anthus), 217.
rufus (Euparius), 305.
— (Lanius), 431.
— (Macropus), 365.
rumia (Kallima), 350.
rupina (Hypolamprus), 483
ruppeli (Passer), 458.
ruptimacula (Cimicodes), 137.
ruspina (Euphaedra), 350.
rustica (Hirundo), 203.
rutilans (Passer), 458.

Sabulodes, 147, 161, 164.
Saccoploca, 8, 9, 495, 496.
saclava (Neptis), 350.
sacra (Ardea), 188.
— (Demiegretta), 188.
safitza (Mycalesis), 344.
sagenaria (Asura), 425.
sagittaria (Asura), 425.
saharae (Passer), 460.
Salamis, 348, 452.
salmacis (Hypolimnas), 350.
salmo (Banisia), 483.
salomonis (Argyrolepidia), 446.
salvadorii (Dicaeum), 214.
— (Stigmatops), 215.
salvini (Heterusia), 537.
sancta (Halcyon), 196, 199.
Sangala, 98, 99, 101.
Sangalopsis, 99, 100, 544.
sangaris (Cymothoe), 352.
sanguinata (Pisoraca), 467.
Saraugesa, 360.
Sarracena, 524.
satraps (Abisara), 317, 318, 455.
saturatus (Cuculus), 201.
— (Microtus), 642.
satyrata (Nipteria), 103.
saussurei (Mycalesis), 341
Saxicola, 431.
scabra (Epiplema), 4, 5.
scabrosus (Brachytarsus), 308.
Scalops, 642.
Scaptesyle, 422.
scapulatus (Pteropus), 222.
Scea, 19.
schaeneia (Antauartia), 348.

schistacea (Entogonia), 12.
— (Iridopsis), 111, 554.
— (Spargania), 77.
schisticolor (Hymenomima), 110.
Schistophleps, 426.
schoenbergi (Delias), 453, 454.
— (Troides), 311.
scintillans (Lipomelia), 37.
Scodiona, 476.
Scoliacma, 416, 417.
Scolopax, 187, 431.
scolytinus (Gymnognathus), 252.
Scopelodes, 384, 385.
scotica (Loxia), 460.
sculpturatus (Anomalipus), 449, 451.
scutellaris (Eusphyrus), 290, 291.
scutulata (Ninox), 192.
Scymnopis, 282.
Scythrops, 175.
Sebastia, 535.
secturata (Nipteria), 550.
securizonis (Clerekia), 442.
segecia (Abisara), 317, 455.
segestes (Abisara), 455.
selatinus (Anomalipus), 450.
Selidosema, 477.
Semaeopus, 42, 513, 514.
Semalea, 362.
semialbata (Devarodes), 97.
semicastanea (Thysanocraspeda), 10.
semicava (Phyllodonta), 168.
semicollaris (Rhipidura), 206.
semicostata (Pigia), 39.
semiflava (Heterusia), 447.
semifulva (Scea), 19.
semifumata (Erebochlora), 517.
semifusca (Trigonomelea), 475.
semigriseus (Phaenithon), 294.
semimaculata (Stenoplastis), 502.
seminigra (Ameria), 81.
— (Tephroclystia), 534.
semiornata (Racheospila), 506.
Semiothisa, 127, 479, 562.
semipallida (Spargania), 78.
semipicta (Epiplema), 462.
semipleta (Perigramma), 105.
semirasa (Psaliodes), 69.
semirubra (Eriopygidia), 50.
seminsta (Pergama), 165.
semivitrea (Aeraea), 346.
senegalensis (Terias), 358.
separata (Carpophaga), 181
septemcincta (Muletia), 615.
sequens (Gerygone), 205.
serena (Aeraea), 328, 346.
Serinus, 431, 457.
serratilinea (Hypolepis), 521.
— (Psaliodes), 70, 521.
servona (Aeraea), 346.
sesamus (Precis), 348.
setinata (Durbana), 470, 471.
— (Fidonia), 470, 471.
setosa (Rhipidura), 206.
severina (Belenois), 358.
sexmaculata (Cosmema), 448.
shelleyi (Passer), 459.
sibylla (Nipteria), 548.
siccifolia (Microgonia), 158, 574.
Sicnlodes, 1, 493.
Sicya, 171.
siennata (Psaliodes), 70.
sigillata (Dichromatopodia), 36.
sigillatus (Azanus), 356.
Sigmodon, 599.
signatus (Gymnognathus), 242.
signifer (Semaeopus), 42.
signigera (Sangalopsis), 100.
silenus (Myrina), 354.
simana (Pinacopteryx), 358.
simbangana (Abisara), 318.
similis (Euparius), 304, 305.
— (Megalopalpus), 354.
— (Phaenithon), 294.
simonsi (Neoctodon), 617.
— (Pulex), 616.
Simopteryx, 172.
simplex (Anauxesis), 65.
— (Eugonus), 300.
— (Hyperythra), 492.
— (Oenochroma), 485.
— (Passer), 460.
simulans (Eudule), 541.
sinaiticus (Carpodacus), 457.
Sindris, 447.
sinuata (Lozogramma), 561.
sipahi (Haematospiza), 456, 457.
smaragdinus (Porphyrio), 185.
smithi (Hyposidra), 480.
sobria (Cophocerotis), 540.
— (Halone), 422.
socius (Philaeterus), 458.
solaris (Cinnyris), 214, 215.
— (Nectarinia), 214.
solilucis (Belenois), 358.
— (Campylona), 15.
solomonis (Halcyon), 198.
— (Pteropus), 597.
somaliensis (Equus), 586, 595.
sombrera (Anapalta), 45.
sommeri (Tarsolepis), 373.
somnolenta (Ira), 145.
songaria (Phyllodonta), 168.
sophia (Precis), 348.
sophrosyne (Mycalesis), 344.
sordida (Hypolepis), 55, 56, 520.
— (Saccoploca), 497.
sordidus (Halcyon), 198, 199.
— (Monoloeus), 258.
— (Mus), 599.
Sorella, 458.

Sorex, 652.
soror (Gymnognathus), 249.
sororcula (Nipteria), 549.
— (Pseudapicia), 170.
sotikensis (Acraea), 346.
Spalgis, 354.
Spargania, 76–8.
sparsa (Exechontis), 284.
sparsilis Ormiscus), 288.
spatiosa (Euphaedra), 352.
specialis (Cosmema), 448.
— (Dromica), 448, 449.
spectandus (Anomalipus), 449.
Speothos, 614.
Sphacelodes, 172.
Sphecotheres, 175, 220.
Sphingonaepiopsis, 438.
spiculosus (Goniocloeus), 261, 264.
Spilocraspeda, 126, 146, 151.
spiloderes (Calanthemis), 365.
spilotus (Ormiseus), 289.
Spindasis, 354.
spiniger (Monocloeus), 255.
spio (Hesperia) 360.
Spizaetus, 189.
spleudida (Burgena), 444.
spodea (Imaus), 409.
Spododes, 580.
Sporostigena, 396.
sportella (Asemorhinus), 234.
Spreo, 609.
spumata (Stenoplastis), 19.
spureata (Neodirades), 8.
— (Tephroclystia), 88.
squamata (Stigmatops), 215.
squamiplaga (Thysanocraspeda), 10, 11.
Squamosala, 392, 393.
Squatarola, 186.
squatarola (Charadrius), 186.
— (Tringa), 186.
stagnatilis (Totanus), 187.
statira (Abisara), 455.
Stauropus, 378–80.
steinbachi (Rothschildia), 601.
Stenalcidia, 114, 115, 556.
Stenoplastis, 19, 501, 502.
Stephanocircus, 647.
Sterna, 185.
Sterrha, 469, 515.
sticticus (Litocerus), 233.
stigmatica (Gelasma), 20.
— (Hyalorrhoe), 21.
Stigmatops, 175, 215, 216.
stoliczkae (Acanthis), 459.
Strabops, 253.
Straboscopus, 254, 264.
straminea (Loxapicia), 152.
Strepsilas, 186, 431.
striata (Cyanotophora), 553.
— (Eucyclotropis), 273.
striata (Geopelia), 182.
— (Iridopsis), 554.
— (Josia), 17.
— (Pseudacraea), 333.
— (Zorilla), 611.
striatus (Oriolus), 219.
striga (Phloeobius), 240.
strigata (Neptis), 330, 350.
— (Pseudodreata), 371.
strigilaria (Synelys), 514.
Striglina, 484.
strigosa (Callipseustes), 116.
— (Hypolepis), 54, 55, 57.
— (Microxydia), 576.
striolata (Hirundo), 203.
Strix, 175, 192.
stuarti (Rothschildia), 601.
stuposaria (Pero), 165.
stygia (Precis), 348.
subaenescens (Anisodes), 31, 511.
subalbata (Hammaptera), 53.
subapicata (Cimicodes), 137.
— (Hydatocapnia), 469.
— (Melinodes), 573.
subaurata (Ectropis), 475.
— (Myrioblephara), 475.
— (Tachyphyle), 27.
subbuteo (Falco), 431, 434.
subcitrina (Cratoptera), 137.
subcostata (Ira), 145.
subcylindricus (Eugonus), 300, 302.
subdecora (Paradoxodes), 164.
subdecorata (Microgonia), 158.
subdentilinea (Microgonia), 159.
subductaria (Microgonia), 159.
subeida (Belenois), 358.
subfasciata (Apicia), 130.
— (Coeluroninna), 8.
— (Morova), 483.
subformicina (Ceryx), 382.
subfulvata (Zeuzerodes), 1.
subfulvescens (Psaliodes), 71.
subfusca (Anapalta), 516.
subfuscata (Lipomelia), 38.
subguttaria (Hydriomena), 517.
sublactea (Erebochlora), 48, 53.
sublutea (Euproctis), 402.
submarmorata (Oreonoma), 538.
submuscosa (Cophocerotis), 540.
subnigra (Dasychira), 404.
subnigropunctata (Dasychira), 404
subnotata (Fulgurodes), 545.
subocellata (Nipteria), 103.
subornata (Hyphedyle), 499.
subpilosa (Gonanticlea), 488.
subpunctata (Eubyja), 473.
subscripta (Comibaena), 20.
subsequa (Mesedra), 155.
subsignata (Callipseustes), 116.
subsordida (Perusia), 579.

subspurcata (Heterusia), 90.
substigmaria (Celerena), 485.
subtincta (Devarodes), 544.
— (Lipounclia), 38.
subtractata (Paracomistis), 163, 164.
subtridactyla (Squatarola), 186.
subumbrata (Microgonia), 575.
— (Ptochophyle), 467.
subusta (Hygrochroma), 142, 571.
subvaria (Devarodes), 544.
subviridis (Zenctoneura), 43.
suffecta (Tephroclystia), 534.
— (Thysanopyga), 125.
suffusa (Heterusia), 536, 537.
— (Precis), 348.
Sula, 189.
sula (Pelecanus), 189.
— (Sula), 189.
sulcirostris (Acorynus), 232.
sulphurea (Lunaus), 411.
sumatrana (Ardea), 188.
sumatranus (Physopterus), 231.
sumbaensis (Astur), 190.
sumbavensis (Geoffroyus), 194, 195.
superciliosus (Plocepasser), 458.
superstes (Perusia), 166.
supremus (Troides), 311.
suturalis (Euparius), 308.
— (Piezocorynus), 278, 281.
— (Scymnopis), 282.
suvensis (Halcyon), 198.
swainsoni (Passer), 459.
swinhoei (Ceryx), 383.
— (Porthesia), 398.
sykesi (Aeraea), 327, 346.
sylvanus (Lycaenesthes), 356.
Sylvia, 433.
sylvia (Phrissura), 358.
Sympaector, 233.
Synchlora, 25.
Synelys, 514.
synestalmenus (Sarangesa), 360.
Synglochis, 582.
Syngria, 8, 497.
synoica (Carpodacus), 457.
— (Pyrrhula), 457.
Synoicus, 177.
Syrtodes, 118, 124.

Tachyglossus, 229.
Tachyphyle, 27, 464, 507.
Tachyris, 314.
taedium (Epistor), 436.
taeniolata (Ptychopoda), 513.
taeniopus (Equus), 593, 594, 595.
Taeniopygia, 218.
Tagiades, 360.
Tanaostyla, 106.
Tantalus, 186.
tapirus (Euparius), 303.
tapponia (Nipteria), 103.
Taragama, 394.
tarsalis (Dasyrhopala), 272.
— (Euparius), 307.
— (Goniocloeus), 263.
Tarsolepis, 373.
Tarucus, 356.
Tatusia, 614.
technatis (Mycalesis), 344.
telicanus (Tarucus), 356.
Telipna, 335, 354.
tellus (Planema), 333, 348.
Temnora, 436, 437.
temora (Salamis), 348.
tempestatis (Pisorhina), 190, 191.
tenerifae (Regulus), 433.
tentyris (Eurypheue), 352.
tenuicornis (Lagopezus), 275.
tenuis (Eugonus), 300.
Tephrina, 562.
Tephriuopsis, 562.
Tephroclystia, 87, 88, 530-35.
Tephronia, 115.
tera (Larinopoda), 351.
Teracolus, 358.
terea (Precis), 348.
Terekia, 187.
Terias, 358.
Teriomima, 336, 354.
terminata (Isochromodes), 151.
terra (Pseudacraea), 332, 350.
tessellata (Cambogia), 84.
— (Heterusia), 537.
testudo (Pulex), 603.
Tetracis, 581.
tetradactyla (Luricata), 611.
tetragonata (Aeschropteryx), 128.
Tetraharnis, 354.
teydea (Fringilla), 434.
thalassina (Luceronia), 358.
Thalassodes, 322.
Thamnonoma, 563.
theela (Sarangesa), 360.
theelaria (Meleaba), 498.
Theretra, 440.
thersander (Papilio), 360.
thomasi (Ceratophyllus), 625.
thomensis (Tuerta), 445.
thura (Carpodacus), 456.
Thyatira, 381, 382.
thyridata (Heterusia), 91.
thysa (Belenois), 358.
Thysanocraspeda, 7, 9-11.
Thysanocteua, 535.
Thysanopyga, 124.
tibiale (Odezia), 542.
tibialis (Anthrenosoma), 281, 282.
— (Phaenithon), 292.
tigrina (Columba), 182.

tigrina (Turtur), 182.
tigris (Euparius), 303.
timorensis (Chalcophaps), 183.
timoriensis (Ceblepyris), 208.
— (Lalage), 208.
— (Megalurus), 210.
— (Philemon), 216.
— (Tropidorhynchus), 216.
tincta (Craspedia), 35, 36.
tingitanus (Passer), 457.
Tinnunculus, 190, 434.
tiridates (Charaxes), 352.
tirikensis (Mylothris), 341, 356.
— (Pseudacraea), 332, 350.
Tirumala, 344.
titan (Troides), 310, 311, 312.
tithonus (Troides), 311.
Tithraustes, 17.
tjindanae (Geoffroyus), 194, 195.
Tmetomorpha, 173.
togonis (Papilio), 453.
tonkiniana (Apolecta), 236.
tonkinianus (Acorynus), 232.
— (Habrissus), 234.
Tornos, 582.
torquatus (Astur), 189, 190.
torrida (Ptychopoda), 468.
torrua (Acraea), 346.
torsiveua (Anisodes), 32.
Totanus, 187, 431.
Toxotropis, 286.
Trachytropis, 266.
traillii (Pergama), 165.
transducta (Nipteria), 104.
transitoria (Cosmema), 448.
— (Dromica), 448.
transluceus (Devarodes), 97.
transversata (Ophthalmophora), 96.
transvisata (Abraxas), 543.
— (Gonodela), 479.
triangulifera (Tephroclystia), 534.
trias (Craspedia), 35.
Trichechus, 226.
Trichoclystis, 535.
Trichodezia, 541.
Trichoglossus, 192-4.
trichosa (Chaetopsylla), 645, 646.
Trichosterrha, 515.
Trichosurus, 227.
tricolor (Erythrura), 217.
— (Fringilla), 217.
— (Rallina), 184.
— (Tuerta), 446.
tricolora (Eugoa), 427.
trifascia (Paradohertya), 421.
trigenuata (Tephroclystia), 88.
Trigonomelea, 475.
trilineata (Lampropteryx), 57.
triluuaria (Oospila), 505.
trilunata (Psaliodes), 71.
trimaculata (Melochlora), 22.
trimeni (Tuerta), 445.
Tringa, 186, 187, 431.
Tringoides, 187.
tripartita (Psaliodes), 72.
Triphosa, 524.
tripita (Psaliodes), 72.
trisecta (Eubyja), 473.
— (Nipteria), 549.
trisignatus (Cyclopides), 343, 362.
tristata (Fidonia), 560.
tristis (Ceratophyllus), 625, 626.
— (Piezocorynus), 276, 277, 280.
— (Typhlopsylla), 625, 626.
triumphans (Siculodes), 1.
trivirgata (Monarcha), 207
trochilus (Chilades), 356.
Troides, 310-12, 654.
Tropideres, 254.
Tropiderides, 286.
Tropidorhynchus, 216.
Trotorhombia, 498.
trygodata (Craspedia), 36.
Trygodes, 101.
tryoni (Papilio), 453.
Tuerta, 445, 446.
tunneyi (Mus), 222, 223.
Turacoena, 181.
Turdus, 431, 432.
turneri (Osica), 374.
Turnix, 177.
turpis (Nipteria), 104.
— (Pycnoneura), 13.
Turtur, 182, 431.
turtur (Turtur), 431.
Typhloceras, 639, 641.
Typhlopsylla, 625, 626.
typtaria (Laudosia), 576.
— (Mixopsis), 163, 576.

uganda (Euphaedra), 334, 352.
ugandae (Passer), 459.
Uliura, 491.
umbilicata (Craspedia), 512.
— (Emmiltis), 512.
umbrilinea (Spiloeraspeda), 126.
umbrinus (Goniocloeus), 264.
umbrosa (Microgonia), 575.
unchall (Macropygia), 182.
undilinea (Anisoperas), 565.
— (Brachycteuistis), 133, 134.
— (Lomographa), 92.
unguifera (Onychogale), 227.
unicolor (Certima), 136.
unicolora (Asura), 425.
— (Hema), 420.
uniformata (Calyptocome), 33.
uniformis (Nemotrichus), 269.
— (Phellinodes), 14.

uniformis (Sporostigena), 396.
unilinea (Nupteria), 550.
unimacula (Tanaostyla), 106.
unimaculata (Aeraea), 348.
uniplaga (Triphosa), 524.
unistrigata (Nervicompressa), 390.
unisulcatus (Otomys), 636.
Upupa, 431.
Uranothauma, 356.
Urocalpe, 78, 79.
uropygialis (Carpodacus), 457.
usemia (Castalius), 340, 356.
ustanalis (Lophotosoma), 7.
ustularia (Asestra), 132.
uvui (Aeraea), 346.

validaria (Iridopsis), 111.
Vanellus, 431.
Vanessula, 348.
varanes (Charaxes), 352.
variegata (Rhinura), 74.
variegatus (Numenius), 186.
— (Parexillis), 285.
— (Tantalus), 186.
variolosus (Cacomantis), 201.
— (Cuculus), 201.
velleda (Neptidopsis), 350.
velutina (Sangalopsis), 544.
venaticus (Specthos), 614.
venosa (Scopelodes), 385.
ventralis (Milionia), 321.
ventura (Aeraea), 328.
venusta (Apicia), 153.
— (Mesedra), 155.
vereundus (Mus), 598.
verrucatus (Piezocorynus), 278, 279, 281.
versilinea (Microgonia), 160.
vesta (Teracolus), 358.
vestalis (Teracolus), 358.
vestigiata (Devarodes), 97.
— (Isochromodes), 151.
— (Nipteria) 550.
vestitus (Homocloeus), 264, 265, 266.
vibicaria (Apicia), 130.
— (Loxapicia), 152.
vibius (Pardaleodes), 362.
vicinus (Gymnognathus), 243.
victa (Rallina), 184.
victoriae (Troides), 654.
vigilans (Opisthoxia), 543.
vinidia (Aeraea), 346.
vinocinctâta (Haemalea), 37.
vinosata (Anapalta), 43.
— (Psalioides), 73, 523.
violacea (Mesedra), 155.
violada (Amaurinia), 526.
violetta (Anapalta), 45.
Virachola, 354.
virginea (Euproctis), 398.
viridifascia (Ischnopteris), 557, 558.
viridifuscus (Oriolus), 219.
viridilinea (Bonatea), 568.
viridirufa (Bryoptera), 551.
— (Ira), 145.
viridis (Ptilinopus), 180.
viridissimus (Stauropus), 378.
vitticollis (Gymnognathus), 250.
— (Nemotrichus), 267, 270.
vittifrons (Sympaector), 233.
viverinus (Dasyurus), 623.
vivida (Phyllodonta), 168.
volitans (Darna), 15, 18, 501.
vulgaris (Asinus), 593.
— (Mycalesis), 344.
— (Ormiscus), 288, 290.
vulneraria (Sphacelodes), 172.
vulpecula (Epiplema), 5.
— (Trichosurus), 227.
vulpina (Psaliodes), 523.
vulturata (Josia), 18.
vulturinus (Tropidorhynchus), 216.

wallacei (Anthribus), 235, 236.
— (Ptilinopus), 180.
— (Astur), 189, 190.
walshi (Eusphyrus), 291.
waterhousei (Ozotomerus), 297.
weiskei (Abisara), 317.
— (Delias), 314.
— (Papilio), 310.
— (Tachyris), 314.
wenmanni (Ctenophthalmus), 642.
westermanni (Muscicapula), 204.
— (Precis), 348.
westwoodi (Belenois), 358.
wetterensis (Gerygone), 204.
— (Ptistes), 195.
whitnalli (Papilio), 342, 360.
wigginsi (Aeraea), 326, 346.
willemi (Cyclopides), 362.
woodwardi (Ceratophyllus), 623.
— (Dendrodoreopsis), 225.
— (Macropus), 224, 225.
— (Neptis), 331, 350.

xantha (Teriomima), 354.
xanthocera (Apaturina), 452.
xanthogaster (Columba), 179.
— (Ptilinopus), 179, 180.
— (Ptilopus), 179.
Xanthomima, 489.
xanthopygius (Serinus), 457.
Xanthoroe, 46.
Xanthospilopteryx, 443, 444.
xanthospilos (Candalides), 369.
Xenocerus, 230.
Xerus, 611.
xylinata (Ischnopteris), 557.
Xylophanes, 439, 440.

yamdenae (Alcyone), 196.
Ypthima, 344.
yulei (Euproctis), 399.
— (Mylothris), 356.

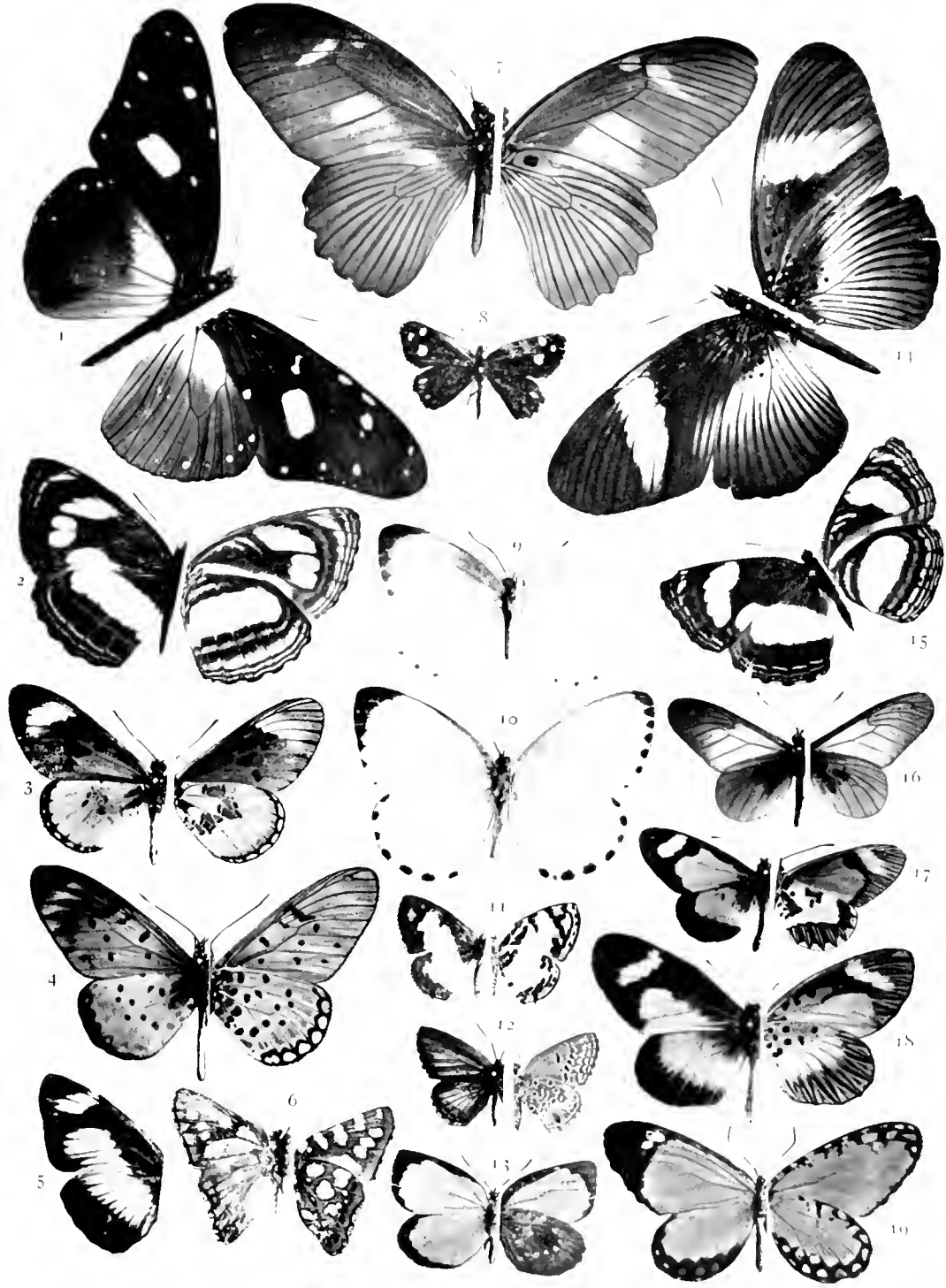
Zamium, 364.
zantus (Temnora), 437.
zarudnyi (Passer), 460.
zebra (Euparius), 308.
zeno (Padraona), 362.
zenobia (Papilio), 360.
zetes (Acraea), 346.
zethi (Ceratophyllus), 626.
Zeuctoneura, 43.
Zeuctostyla, 105.
Zeuzerodes, 1, 2, 494.
zingha (Charaxes), 354.
Zizera, 356.
zochalia (Belenois), 358.
zoolina (Charaxes), 352.
Zorilla, 611.
Zosterops, 213, 214.

END OF VOL. XI

Printed by Hazell, Watson & Viney, Ld., London and Aylesbury.

PLATE I.

Fig. 1. *Amauris dira* . . . . . p. 324
„ 2. *Neptis clarei* . . . . . p. 330
„ 3. *Acraea wigginsi* . . . . . p. 326
„ 4. „ *clarei* . . . . . p. 327
„ 5. *Neptis ochracea* . . . . . p. 330
„ 6. *Aphneus drucei* . . . . . p. 338
„ 7. *Papilio peculiaris* . . . . . p. 342
„ 8. *Cyclopides trisignatus* . . . . . p. 343
„ 9. *Mylothris tirikensis* . . . . . p. 341
„ 10. *Pinacopteryx dixeyi* . . . . . p. 341
„ 11. *Castalius usemia* . . . . . p. 340
„ 12. *Catochrysops nandensis* . . . . . p. 339
„ 13. *Poultonia ochrascens* . . . . . p. 336
„ 14. *Pseudacraea tirikensis* . . . . . p. 332
„ 15. *Neptis conspicua* . . . . . p. 329
„ 16. *Acraea cinerea* . . . . . p. 325
„ 17. „ *hyatti* . . . . . p. 328
„ 18. *Mimacraea poultoni* . . . . . p. 337
„ 19. *Telipna nganza* . . . . . p. 335



Art. Reproduction

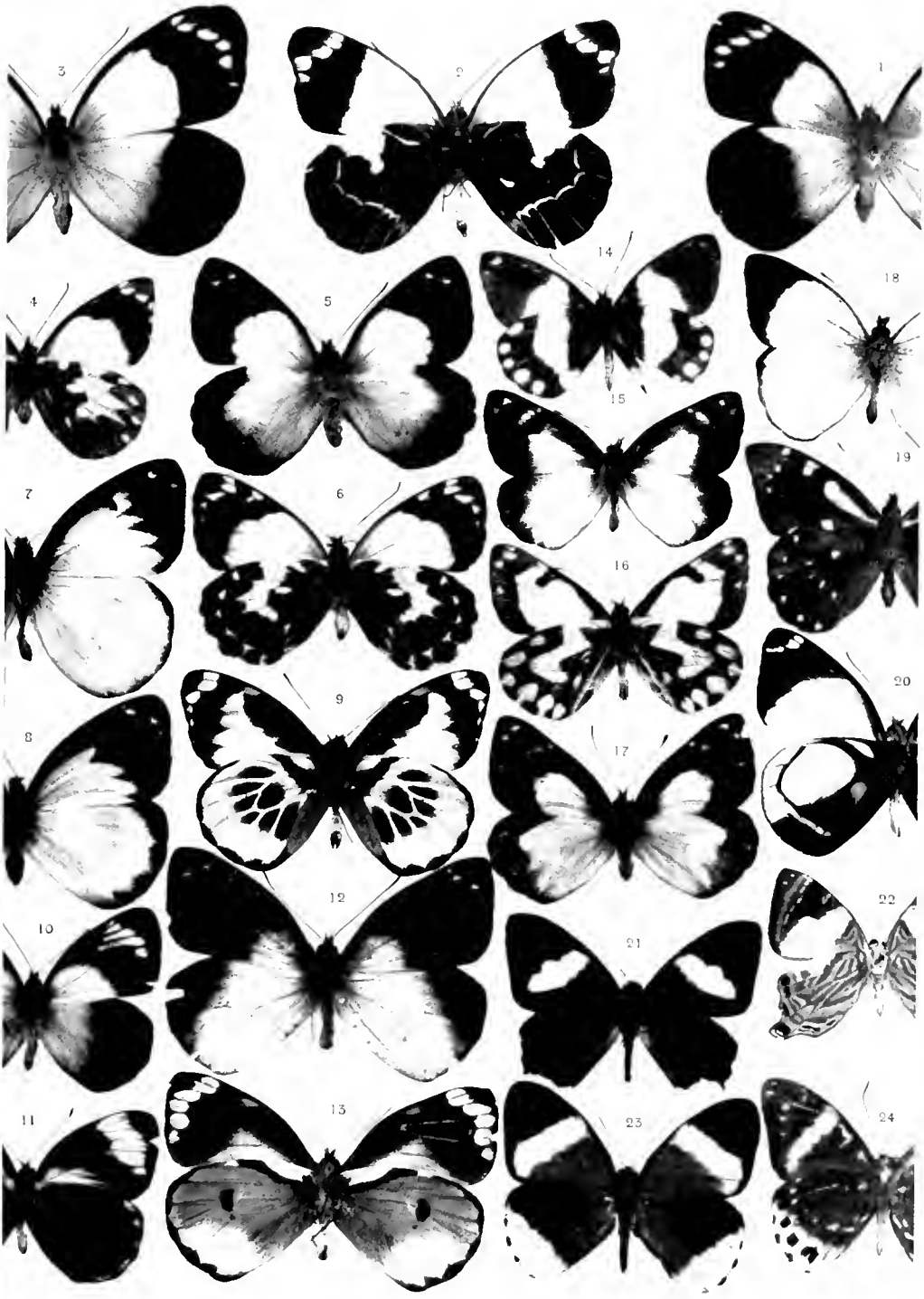
EXPLANATION OF PLATES II. AND III.

PLATE II.

Fig. 1. *Delias meeki* ♀ . . . . . p. 316
„ 2. „ „ ♂ . . . . . p. „
„ 3. „ *nicpelti* ♀ . . . . . p. „
„ 4. „ *arene* ♀ . . . . . p. 314
„ 5. „ *caninguti* ♀ . . . . . p. 313
„ 6. „ „ ♀ . . . . . p. „
„ 7. „ *clathrata* ♂ . . . . . p. 315
„ 8. „ „ ♀ . . . . . p. „
„ 9. „ „ ♂ . . . . . p. „
„ 10. „ *itamputi* ♀ . . . . . p. 314
„ 11. „ „ ♀ . . . . . p. „
„ 12. „ *mira* ♂ . . . . . p. 315
„ 13. „ „ ♀ . . . . . p. „
„ 14. „ *dicra* ♂ . . . . . p. 313
„ 15. „ *eichhorni* ♂ . . . . . p. 316
„ 16. „ „ ♂ . . . . . p. „
„ 17. „ „ ♀ . . . . . p. „
„ 18. „ *microstricha* ♂ . . . . . p. 315
„ 19. „ „ ♂ . . . . . p. „
„ 20. „ *kummeri f. ligata* ♂ . . . . . p. 313
„ 21. *Dicallaneura amabilis* ♂ . . . . . p. 318
„ 22. „ „ ♀ . . . . . p. „
„ 23. *Abisara albiplaga arcra* ♂ . . . . . p. 317
„ 24. „ „ *keiana* ♂ . . . . . p. „

PLATE III.

„ 25. *Troides chimaera* ♀ . . . . . p. 311
„ 26. *Euborbeta hypocala* ♂ . . . . . p. 321
„ 27. „ *meeki* ♂ . . . . . p. 320
„ 28. *Abisara arcisker* ♀ . . . . . p. 317
„ 29. *Bourmia arcensis* ♀ . . . . . p. 322
„ 30. *Milionia parca* ♀ . . . . . p. 321
„ 31. *Chrysocraspida rothschildi* ♂ . . . . . p. 322
„ 32. *Euborbeta eichhorni* ♂ . . . . . p. 320
„ 33. „ „ ♀ . . . . . p. „
„ 34. „ *miranda* ♂ . . . . . p. „
„ 35. *Chelura hemileuca* ♂ . . . . . p. 322
„ 36. *Thalassodes nicostrata* ♂ . . . . . p. „
„ 37. *Bordeta arcensis* ♀ . . . . . p. 319
„ 38. *Milionia centralis* ♂ . . . . . p. „
„ 39. „ *dira* ♂ . . . . . p. „
„ 40. „ „ ♀ . . . . . p. „
„ 41. „ *arcensis* ♂ . . . . . p. „
„ 42. *Myzalesis barbara mea* ♂ . . . . . p. „
„ 43. *Messaras mimicus* ♂ . . . . . p. 318


3
2
1
14
18
4
5
15
19
7
6
16
20
9
8
17
12
22
10
21
11
13
23
24

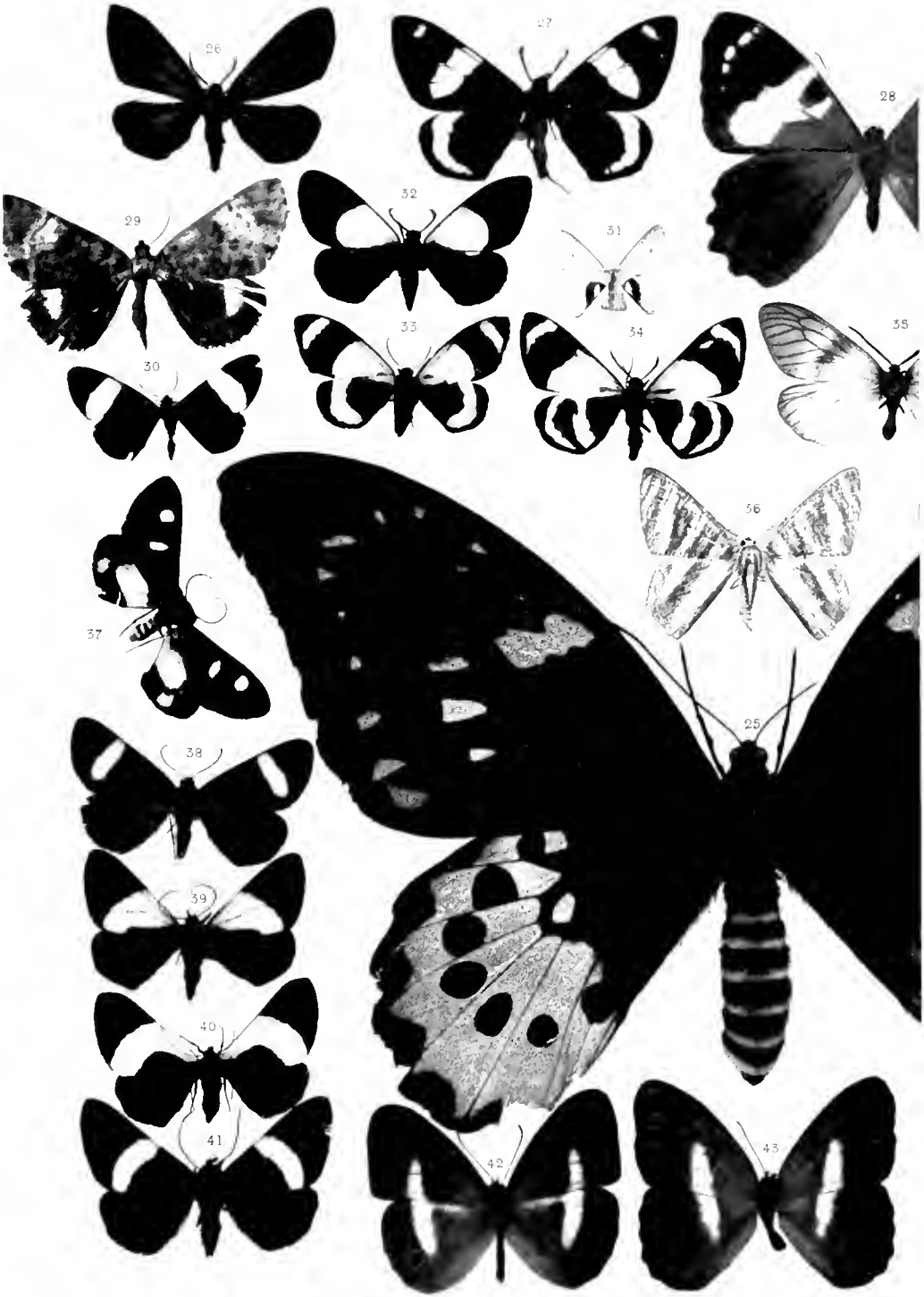

26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43

PLATE IV.

Fig. 1. *Stauropus viridissimus* . . . . . p. 378
„ 2. *Taragama rubiginea* . . . . . p. 394
„ 3. *Nervicompressa albomaculata* . . . . . p. 391
„ 4. „ *lunulata* . . . . . p. 390
„ 5. „ *unistrigata* . . . . . p. 390
„ 6. „ *aroa* . . . . . p. 392
„ 7. *Odonestris centralistrigata* . . . . . p. 397
„ 8. *Taragama dinawa* . . . . . p. 394
„ 9. „ *proserpina* ♂ . . . . . p. 394
„ 10. *Nervicompressa kebeae* . . . . . p. 391
„ 11. *Sporostigena uniformis* . . . . . p. 396
„ 12. *Isostigena bicellata* . . . . . p. 396
„ 13. *Euproctis pratti* . . . . . p. 400
„ 14. *Stauropus bella* . . . . . p. 379
„ 15. *Imaus pratti* ♂ . . . . . p. 409
„ 16. *Euproctis parallelaria* . . . . . p. 399
„ 17. *Stauropus dinawa* . . . . . p. 379
„ 18. „ *pratti* . . . . . p. 380
„ 19. *Nervicompressa dubia* . . . . . p. 391
„ 20. *Euproctis swinhoei* . . . . . p. 398
„ 21. „ *rubroradiata* . . . . . p. 400
„ 22. *Lymantria kebeae* . . . . . p. 408
„ 23. *Diacrisia pratti* . . . . . p. 412
„ 24. „ *kebea* . . . . . p. 413
„ 25. „ *dinawa* . . . . . p. 413
„ 26. *Parabasis pratti* . . . . . p. 429
„ 27. *Dasychira kenrieki* ♂ . . . . . p. 405
„ 28. *Euproctis yulei* . . . . . p. 399
„ 29. „ *dinawa* . . . . . p. 399
„ 30. „ *kebeae* . . . . . p. 399
„ 31. *Thyatira ekeikei* . . . . . p. 382
„ 32. *Gunda kebea* ♂ . . . . . p. 370
„ 33. *Argyda pratti* ♂ . . . . . p. 395
„ 34. *Euproctis nigroapicalis* . . . . . p. 401
„ 35. *Chionaema albomaculata* . . . . . p. 422
„ 36. *Paradohertya trifascia* . . . . . p. 421
„ 37. *Garudinistis aroa* . . . . . p. 422

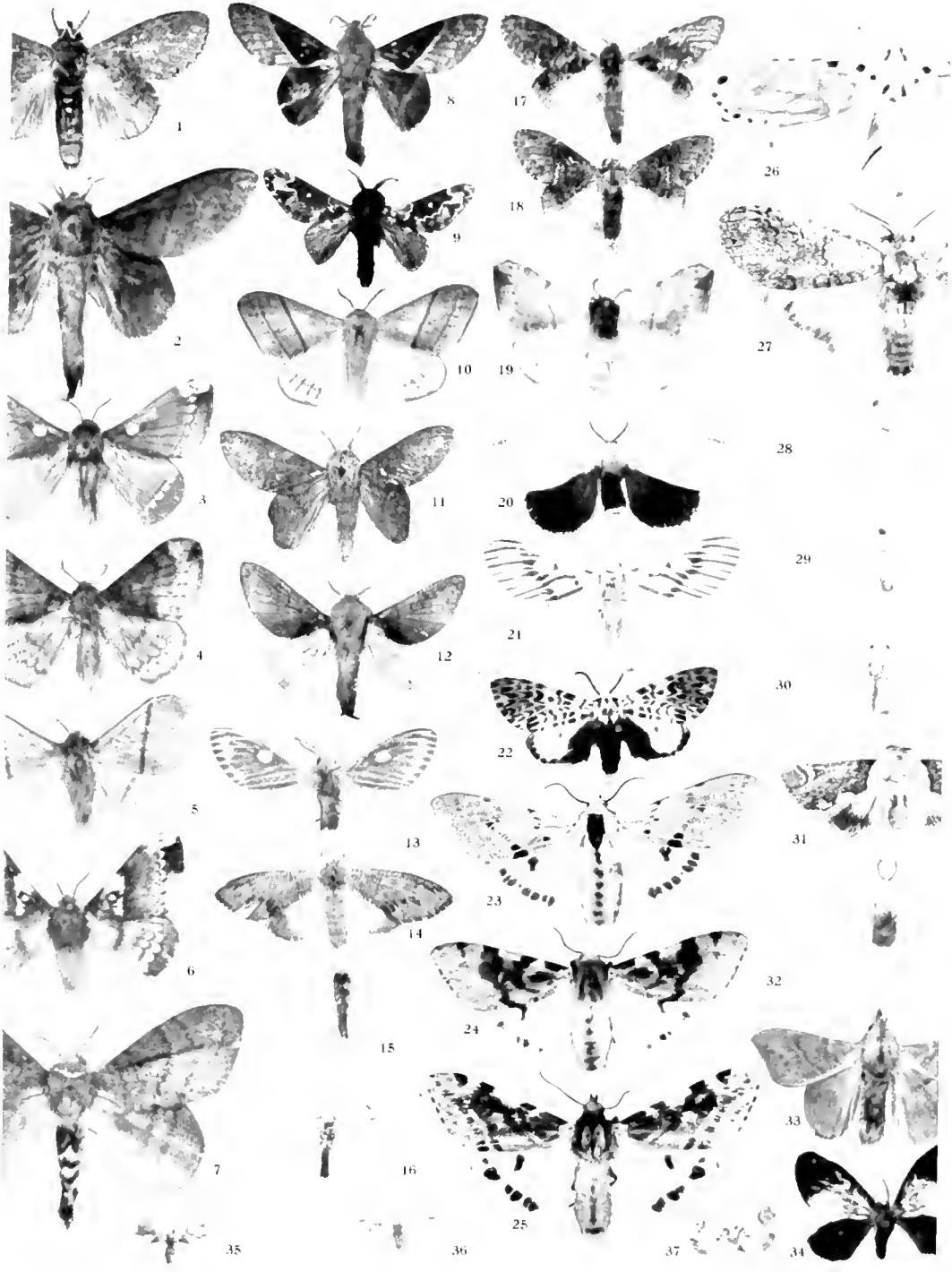

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37

PLATE V.

Fig. 1. *Amphoracerus rothschildi* . . . . . p. 428
„ 2. *Omichlis hampsoni* . . . . . p. 375
„ 3. „ *dinawa* . . . . . p. 376
„ 4. *Pseudogargetta diversa* ♂ . . . . . p. 373
„ 5. *Omichlis pratti* . . . . . p. 377
„ 6. „ *ochracea* ♂ . . . . . p. 376
„ 7. „ *griseola* . . . . . p. 377
„ 8. *Notodonta irroratiriridis* . . . . . p. 380
„ 9. *Parazenzera celaena* . . . . . p. 384
„ 10. „ *aurea* . . . . . p. 384
„ 11. *Dinawa nigricans* . . . . . p. 386
„ 12. *Enyoa conflua* . . . . . p. 427
„ 13. „ *tricolora* . . . . . p. 427
„ 14. *Ilema hades* . . . . . p. 420
„ 15. „ *dinawa* . . . . . p. 419
„ 16. „ *ekeikei* . . . . . p. 419
„ 17. *Pseudilema dinawa* ♀ . . . . . p. 419
„ 18. „ „ ♂ . . . . . p. 419
„ 19. *Nishada melanopa* . . . . . p. 417
„ 20. *Scoliacma hampsoni* ♀ . . . . . p. 417
„ 21. *Arco bicolora* ♂ . . . . . p. 418
„ 22. *Asura flavcola* . . . . . p. 424
„ 23. „ *sagittaria* . . . . . p. 425
„ 24. „ *brunneofasciata* . . . . . p. 425
„ 25. „ *unicolora* . . . . . p. 425
„ 26. „ *ochreomaculata* . . . . . p. 424
„ 27. *Chionaema charybdis* . . . . . p. 423
„ 28. *Halone flavopunctata* . . . . . p. 421
„ 29. *Macaduma bipunctata* . . . . . p. 421
„ 30. *Ilema costistrigata* . . . . . p. 419
„ 31. „ *unicolora* . . . . . p. 420
„ 32. *Dinawa rufa* . . . . . p. 386
„ 33. *Birthama dinawa* . . . . . p. 385
„ 34. *Pygmacomorpha brunnea* . . . . . p. 387
„ 35. „ *modesta* . . . . . p. 387
„ 36. *Graphosia ochracea* . . . . . p. 415
„ 37. *Asura aroa* . . . . . p. 426
„ 38. „ *dinawa* . . . . . p. 426
„ 39. *Celama aroa* ♀ . . . . . p. 414
„ 40. *Schistophleps bicolora* . . . . . p. 426
„ 41. *Celama aroa* ♂ . . . . . p. 414
„ 42. „ *fuscibasis* . . . . . p. 414
„ 43. *Thyatira dinawa* . . . . . p. 381
„ 44. *Cascera bella* ♂ . . . . . p. 374
„ 45. *Pseudodreata strigata* . . . . . p. 371
„ 46. *Conthegla pratti* . . . . . p. 385
„ 47. *Squamosada nigrostigmata* . . . . . p. 393
„ 48. *Scopelodes dinawa* . . . . . p. 384
„ 49. *Lasiochara pulchra* . . . . . p. 392
„ 50 *Lasiolimacus ferruginea* . . . . . p. 389
„ 51. *Scopelodes nitens* . . . . . p. 385
„ 52. *Stauropus kebeae* . . . . . p. 378

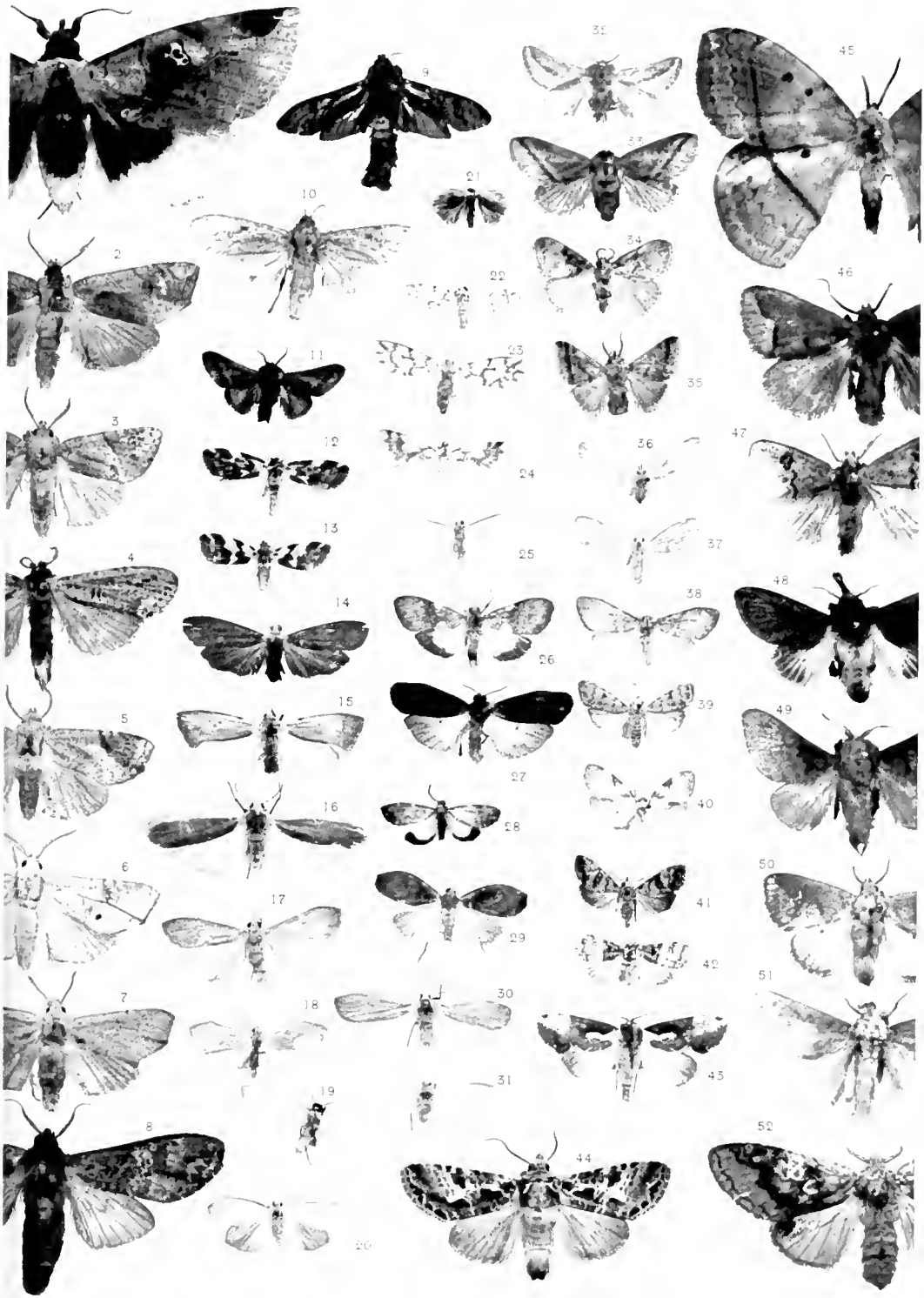

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52

PLATE VI.

Fig. 1. *Imaus spodea* ♂ . . . . . p. 409
„ 2. *Euproctis albociliata* ♂ . . . . . p. 401
„ 3. *Diversosexus arora* ♀ . . . . . p. 403
„ 4. „ *bicolor* ♂ . . . . . p. 403
„ 5. *Euproctis fuscoradiata* ♀ . . . . . p. 400
„ 6. *Dasychiroides bicolora* . . . . . p. 407
„ 7. „ *pratti* . . . . . p. 406
„ 8. „ *brunneostrigata* . . . . . p. 407
„ 9. *Cerura multipunctata* . . . . . p. 381
„ 10. *Imaus dubia* . . . . . p. 410
„ 11. „ *sulphurea* . . . . . p. 411
„ 12. „ *pratti* . . . . . p. 409
„ 13. „ *marginepunctata* . . . . . p. 410
„ 14. *Euproctis irregularis* . . . . . p. 401
„ 15. *Maenas punctatostrigata* . . . . . p. 412
„ 16. *Euproctis virginea* . . . . . p. 398
„ 17. *Omichlis rufofasciata* . . . . . p. 377
„ 18. *Lymantria ekeikei* ♂ . . . . . p. 408
„ 19. *Scaptesyle arora* . . . . . p. 422
„ 20. *Acatapaustus ekeikei* . . . . . p. 416
„ 21. *Hema nivea* . . . . . p. 420
„ 22. *Porthesia ekeikei* . . . . . p. 398
„ 23. *Scoliacma hampsoni* ♂ . . . . . p. 417
„ 24. *Roeselia basifusca* . . . . . p. 415
„ 25. *Acatapaustus basifusca* ♂ . . . . . p. 415
„ 26. *Chrysaeglia bipunctata* . . . . . p. 420
„ 27. *Dasychira minor* . . . . . p. 405
„ 28. *Dasychiroides nigrostrigata* . . . . . p. 406
„ 29. *Cleolosia arora* . . . . . p. 424
„ 30. *Dasychira brunnea* . . . . . p. 404
„ 31. *Osira turneri* ♂ . . . . . p. 374
„ 32. *Lasiolimacus pratti* . . . . . p. 388
„ 33. „ *kenricki* ♂ . . . . . p. 388
„ 34. *Ocnistis bicolora* . . . . . p. 420
„ 35. *Lymantria noraguinensis* . . . . . p. 407
„ 36. *Deilemera kebae* ♂ . . . . . p. 411
„ 37. „ *dimawa* ♂ . . . . . p. 411
„ 38. „ *pratti* ♂ . . . . . p. 412
„ 39. *Stauropus dubiosus* ♀ . . . . . p. 379
„ 40. *Dasychira subnigropunctata* . . . . . p. 404
„ 41. „ *subnigra* . . . . . p. 404
„ 42. *Collusa ekeikei* . . . . . p. 429
„ 43. *Dasychiroides obsoleta* . . . . . p. 406

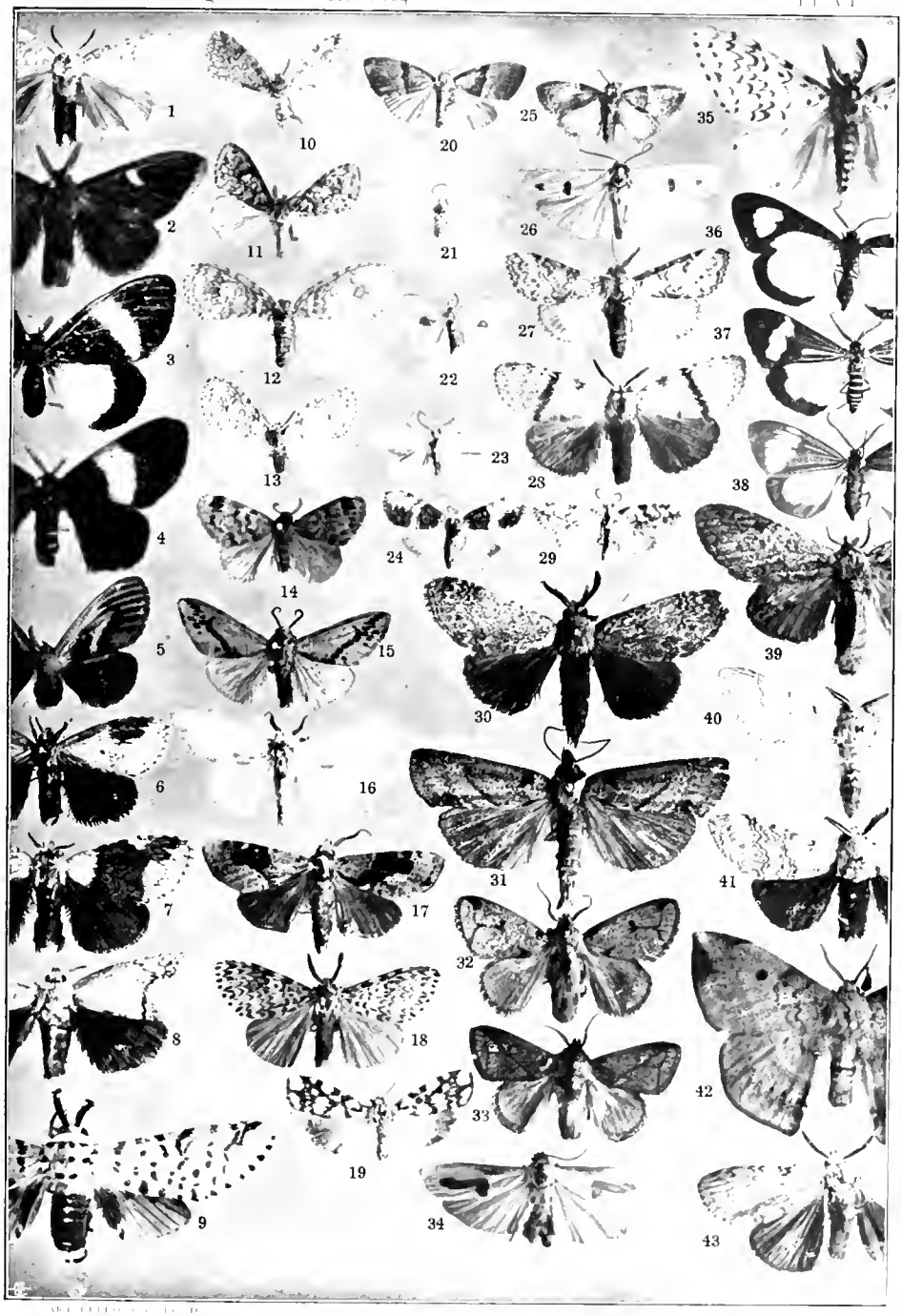
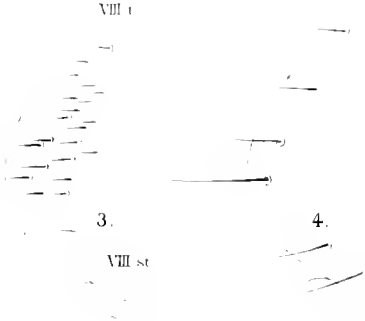

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43

PLATE VII.

Fig. 1. Outline of head of *Lycopsylla novus* . . . . . p. 602
„ 2. Clasping organs of ♂ of the same . . . . . p. 603
„ 3. Eighth abdominal segment of ♀ of the same, inner surface . p. 603
„ 4. The same, outer surface . . . . . p. 603
„ 5. Metathorax and first abdominal tergite of *Malacopsylla agenoris* p. 606
„ 6. Eighth abdominal tergite of the same . . . . . p. 607
„ 7. Outline of head and pronotum of the same . . . . . p. 606
„ 8. Fourth and fifth segments of midtarsus of the same . . . p. 606
„ 9. Foretibia of ♂ of the same . . . . . p. 606
„ 10. The same of *Malacopsylla androcli* . . . . . p. 605

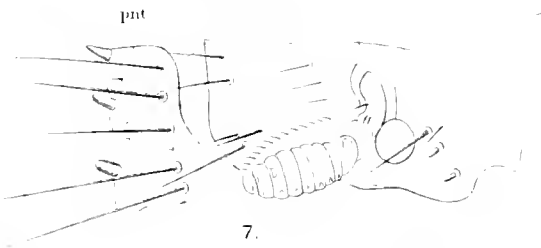
1
VIII c

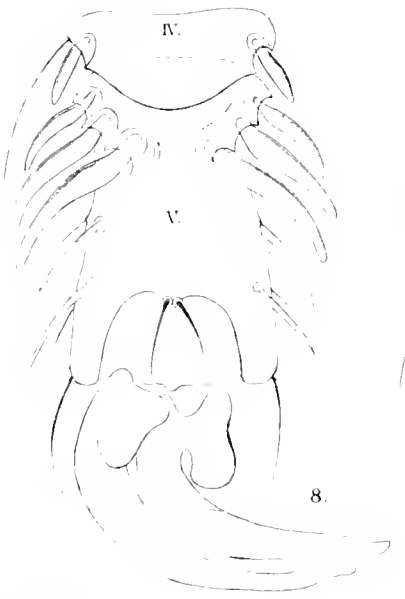
2.
M
Cl
P
VIII c.


3.
4.
VIII st

abd
mtn
epmt
5.

6.


pmt
7.

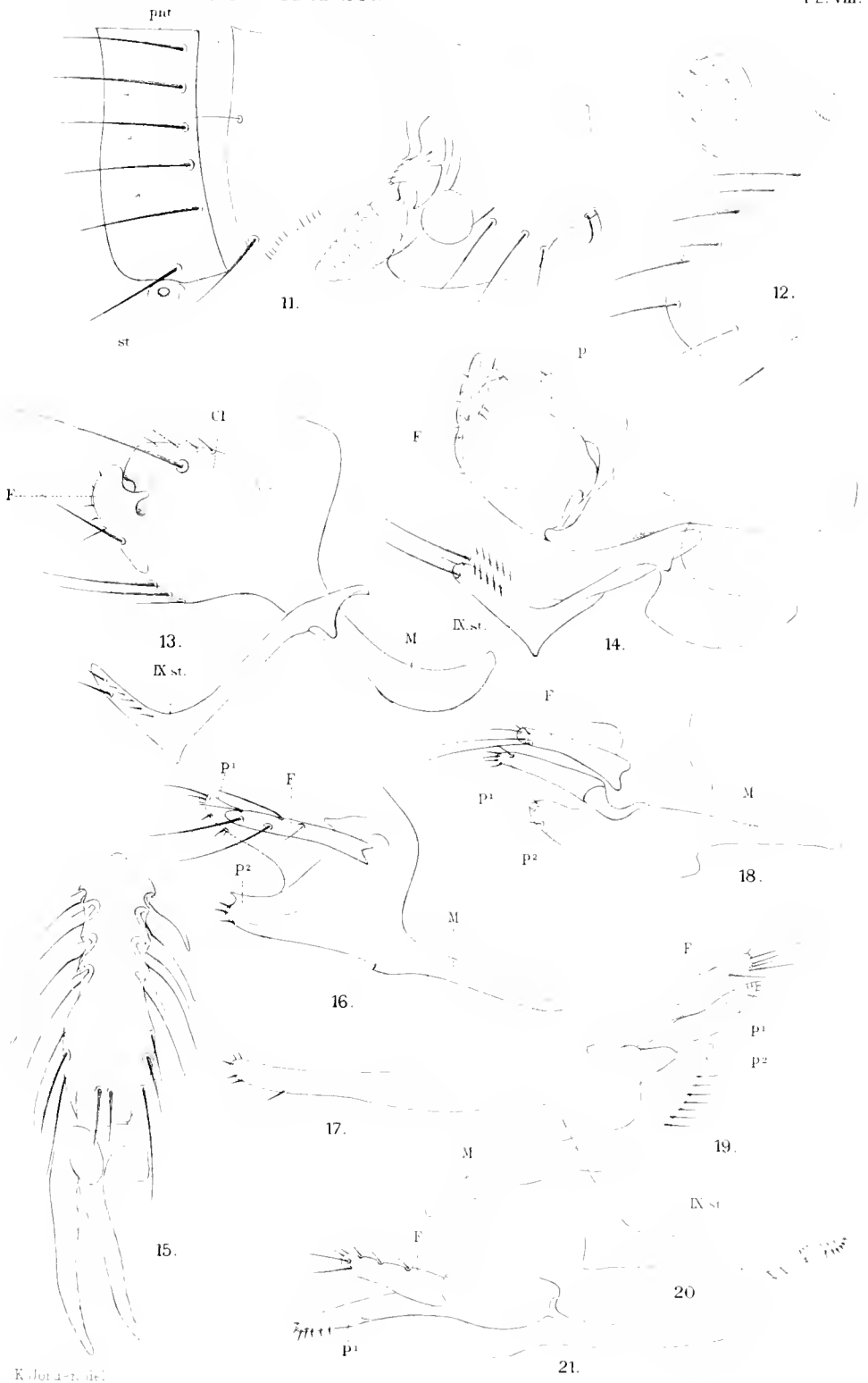

IV.
V.
8.

9

VIII st
10.

PLATE VIII.

Fig. 11. Outline of head and pronotum of ♂ *Malacopsylla androcli* . p. 604
„ 12. Eighth abdominal segment of ♀ of the same . . . . p. 604
„ 13. Clasping organs of ♂ of *Malacopsylla agenoris* . . . . p. 607
„ 14. The same of *Malacopsylla androcli* . . . . . p. 605
„ 15. Fifth hindtarsal segment of the same . . . . . p. 605
„ 16. Clasping organs of ♂ of *Pulex erilli* . . . . . p. 610
„ 17. Ninth abdominal sternite of the same . . . . . p. 610
„ 18. Clasping organs of ♂ of *Pulex crousae* . . . . . p. 609
„ 19. „ „ „ *Pulex riggenbachi* . . . . p. 612
„ 20. Ninth abdominal sternite of the same . . . . . p. 612
„ 21. Clasping organs of ♂ of *Pulex eridos* . . . . . p. 611


pnt
st
11.
12.
P
Cl
F
13.
IX st.
M
IX st.
14.
F
P¹
F
P²
P¹
P²
M
18.
M
16.
F
P¹
P²
17.
19.
M
IX st
15.
F
20
P¹
21.

K. Jordan del.

PLATE IX.

Fig. 22. Eighth abdominal segment of ♀ of *Pulex erilli* . . . p. 610
„ 23. The same of *Pulex eridos* . . . . . p. 611
„ 24. „ „ „ *riggenbachi* . . . . . p. 612
„ 25. „ „ „ *creusae* . . . . . p. 609
„ 26. „ „ „ *cocyti* . . . . . p. 619
„ 27. „ „ „ *corjidii* . . . . . p. 620
„ 28. „ „ „ *klagesi* . . . . . p. 621
„ 29. „ „ „ *australis* . . . . . p. 614
„ 30. „ „ „ *simonsi* . . . . . p. 617

K. Jordan del.

PLATE X.

Fig. 31. Clasping organs of ♂ of *Pulex cavyæ* . . . . . p. 619
.. 32. Ninth abdominal sternite of *Pulex elephantis* . . . . p. 615
.. 33. Frontal part of head of *Pulex corfidii* . . . . . p. 619
. 34. Portion of posterior part of head of *Pulex australis* (to show the row of spine-like hairs above the antennal groove). . p. 613
.. 35. Clasping organs of ♂ of *Pulex klagesi* . . . . . p. 621
.. 36. The same of ♂ *Pulex australis* . . . . . p. 614
.. 37. The same of ♂ *Pulex simonsi*. (P^2 = ventral process of clasper, not movable) . . . . . p. 617
.. 38. Eighth abdominal segment of ♀ of *Pulex concitus* . . p. 616
.. 39. Ninth abdominal sternite of ♂ of *Pulex klagesi* . . . p. 621
.. 40. Foretarsus of *Pulex concitus* . . . . . p. 615
.. 41. Head of ♀ of *Ceratophyllus woodwardi* (the bristles of the hinder part of the head broken off) . . . . . p. 623

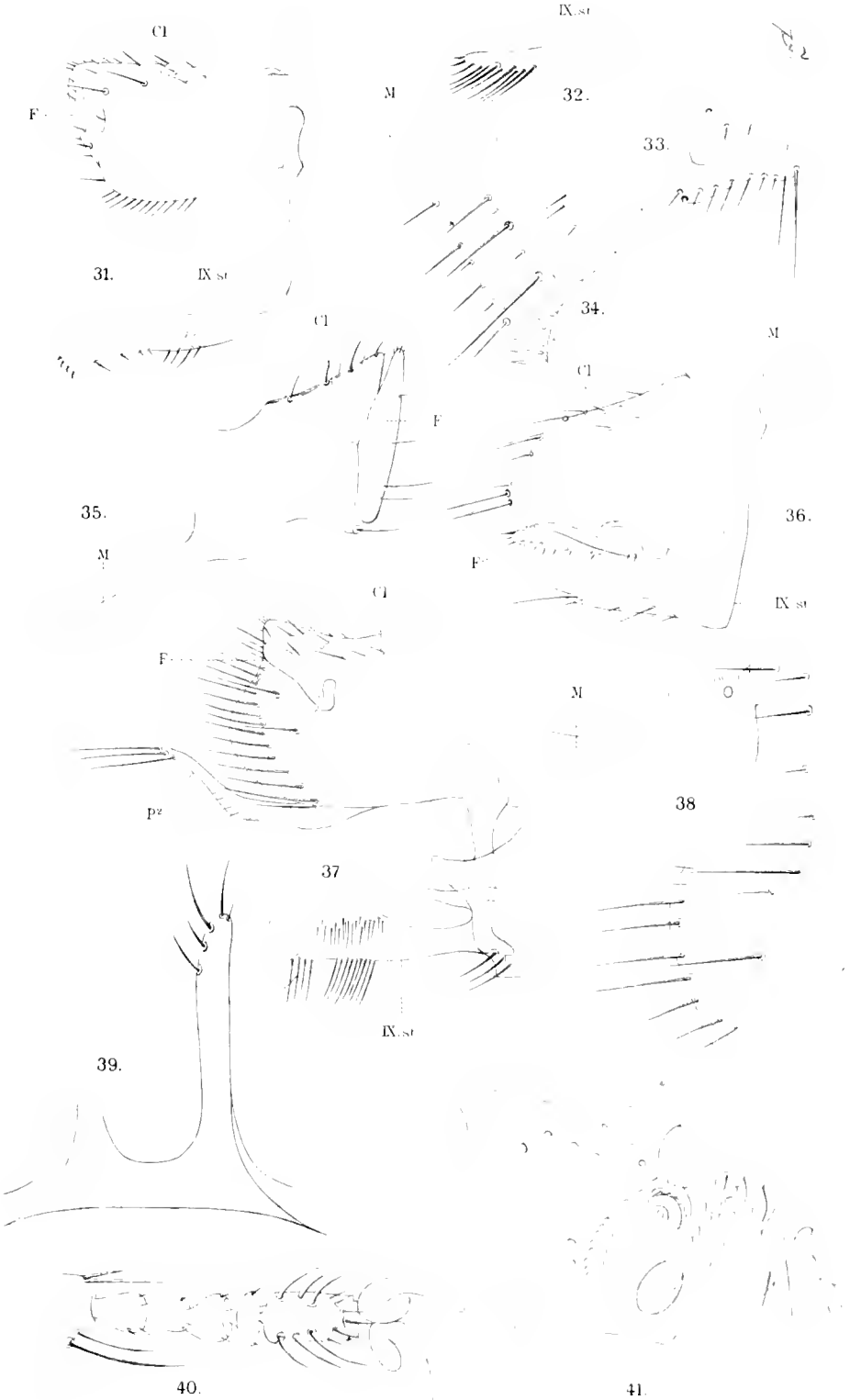

Cl
F
M
IX. st
32.
33.
31.
IX st
34.
Cl
M
Cl
F
35.
36.
M
F
Cl
IX st
F
M
P²
38
37
IX. st
39.
40.
41.

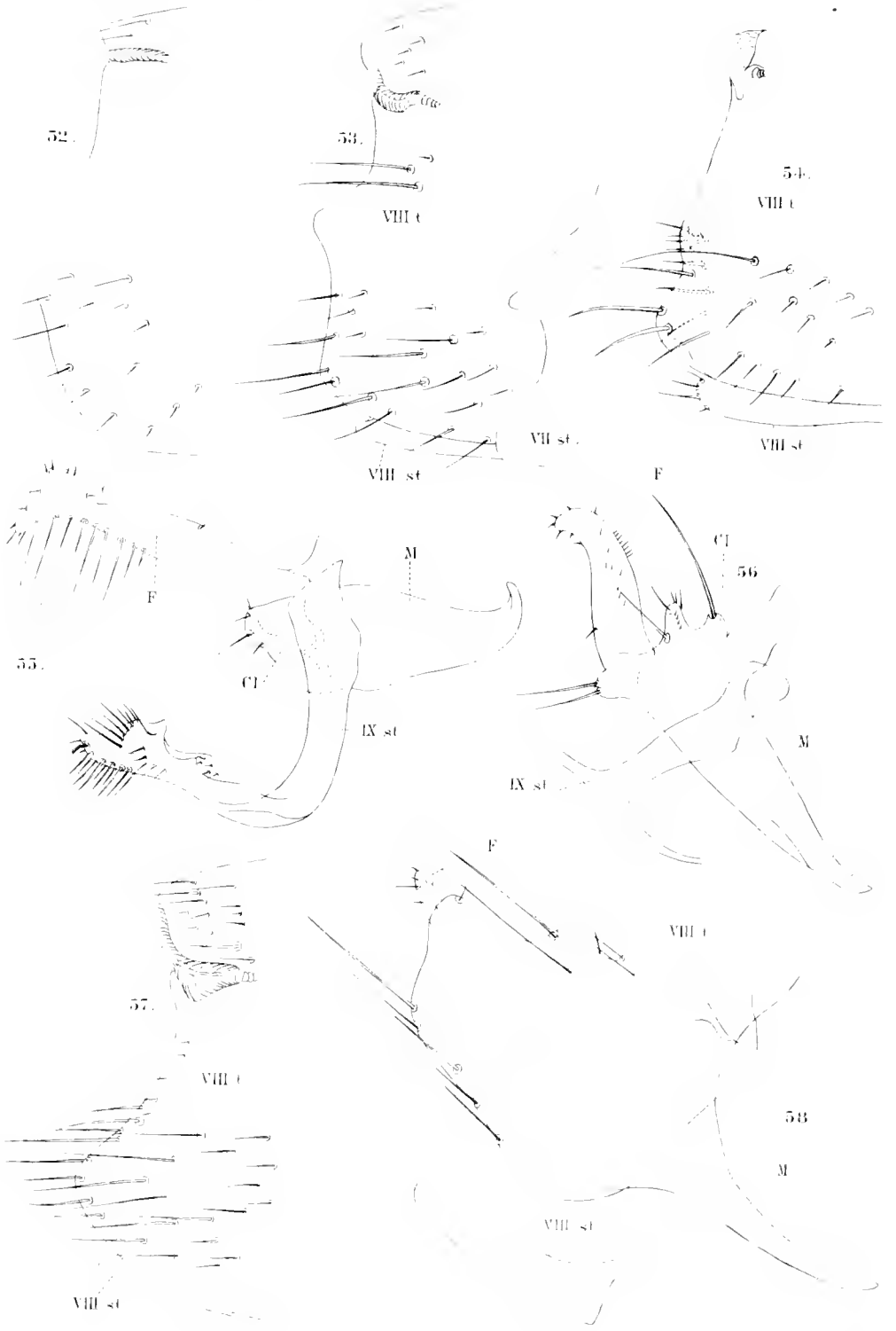
PLATE XI.

Fig. 42. Last abdominal segments of ♀ of *Ceratophyllus woodwardi* . p. 624
„ 43. Clasping organs of ♂ of *Ceratophyllus hilli* . . . . p. 623
„ 44. Eighth abdominal segment of ♀ of *Ceratophyllus hilli* . . p. 623
„ 45. Basal abdominal sternite of ♀ of *Ceratophyllus tristis* . . p. 625
„ 46. Clasping organs of ♂ of *Ceratophyllus thomasi* (the homology of Cl and F of this figure with the organs marked Cl and F in other figures is not beyond doubt) . . . . . p. 626
„ 47. Eighth abdominal tergite of ♀ of *Ceratophyllus tristis* . . p. 625
„ 48. „ „ sternite and ventral portion of eighth tergite of ♀ of *Ceratophyllus thomasi* . . . . . p. 626
„ 49. Clasping organs of ♀ of *Ceratophyllus orchi* . . . . p. 629
„ 50. Head of ♀ of *Ceratophyllus zethi* . . . . . p. 626
„ 51. „ „ ♂ of *Ceratophyllus abalae* . . . . . p. 631

42
43
IX st
X st
VIII st
45
46
47
48
49
50
51
F
M
P
C1
VIII st
IX st

PLATE XII.

Fig. 52. Eighth abdominal segment of ♀ of *Ceratophyllus sethi* . . p. 628
„ 53. The same and seventh sternite of ♀ of *Ceratophyllus alladinis* . p. 633
„ 54. Eighth abdominal segment of ♀ of *Ceratophyllus ochi* . . p. 629
„ 55. Clasping organs of ♂ of *Ceratophyllus ahalae* . . . . p. 632
„ 56. The same of *Ceratophyllus agrippinae* . . . . . p. 636
„ 57. Eighth abdominal segment of ♀ of the same . . . . p. 636
„ 58. Clasping organs of ♂ of *Ceratophyllus numae* . . . . p. 638



K. Jordan del. Mintern Fr.

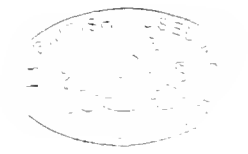
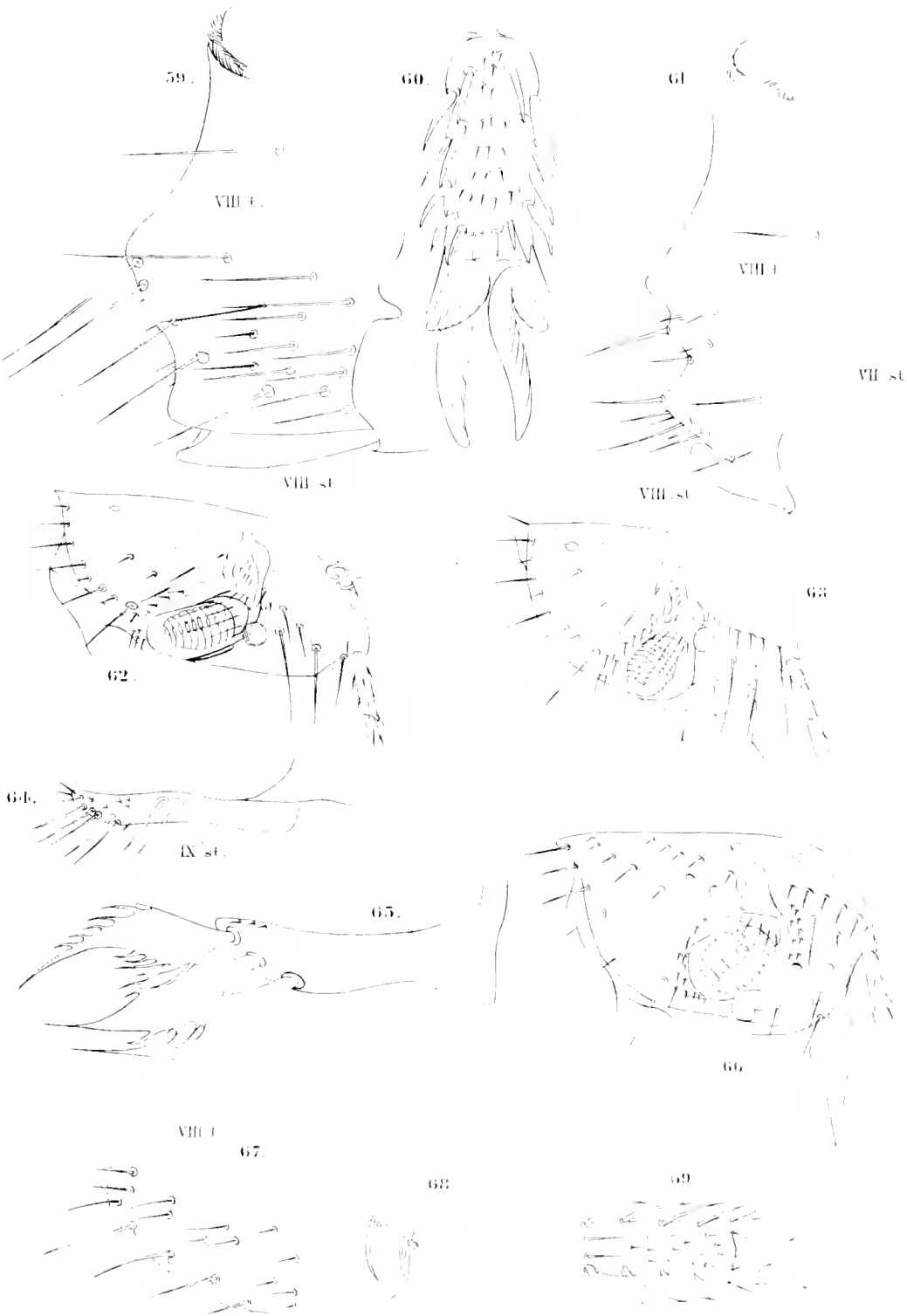


PLATE XIII.

Fig. 59. Eighth abdominal segment of ♀ of *Ceratophyllus numae* . . p. 638
„ 60. Fifth segment of foretarsus of *Ceratophyllus ahalae* . . . p. 631
„ 61. Eighth abdominal segment and seventh sternite of ♀ of *Ceratophyllus octavii* . . . . . p. 639
„ 62. Head of ♂ of *Ceratophyllus agrippinae* . . . . . p. 634
„ 63. The same of *Ceratophyllus numae* . . . . . p. 637
„ 64. Ninth abdominal sternite of ♂ of *Ceratophyllus agrippinae* . p. 636
„ 65. The same of *Ceratophyllus numae* . . . . . p. 638
„ 66. Head of ♀ of *Ceratophyllus noraeguineae* . . . . . p. 629
„ 67. Ventral portion of eighth abdominal tergite of the same . . p. 630
„ 68. Apex of ninth abdominal sternite of ♂ of *Typhlocerus rosenbergi* p. 641
„ 69. Fifth hindtarsal segment of the same . . . . . p. 640


59.
60.
61.
VIII t.
VIII t.
VII st.
VIII st.
VIII st.
62.
63.
64.
IX st.
65.
66.
VIII t.
67.
68.
69.

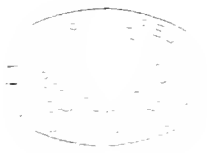


PLATE XIV.

Fig. 70. Eighth abdominal tergite of ♀ of *Ceratophyllus eudymionis* . p. 635
„ 71. Clasping organs and anal segment of ♂ of *Typhloceras rosenbergi* p. 640
„ 72. Ninth abdominal sternite of ♂ of *Ctenophthalmus antiquorum* . p. 644
„ 73. The same of *Ctenophthalmus pseudagyrtes* . . . . . p. 642
„ 74. Dorsal portion of seventh abdominal tergite, and eighth segment of ♀ of *Typhloceras rosenbergi* . . . . . p. 641
„ 75. Eighth abdominal segment and seventh sternite of ♀ of *Ctenophthalmus wenmanni* . . . . . p. 643
„ 76. Eighth abdominal segment of ♀ of *Chaetopsylla mikado* . . p. 645
„ 77. Clasping organs of ♂ of *Ctenophthalmus wenmanni* . . . p. 643
„ 78. Eighth abdominal segment of ♀ of *Ctenophthalmus pseudagyrtes* p. 642
„ 79. Head of *Ctenophthalmus wenmanni* . . . . . p. 642

70
71
72
73
74
75
76
VIII t
P1
VIII st
P2
Cl
77
78
79
K. Jordan del.

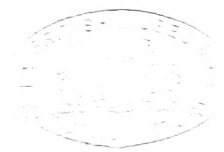
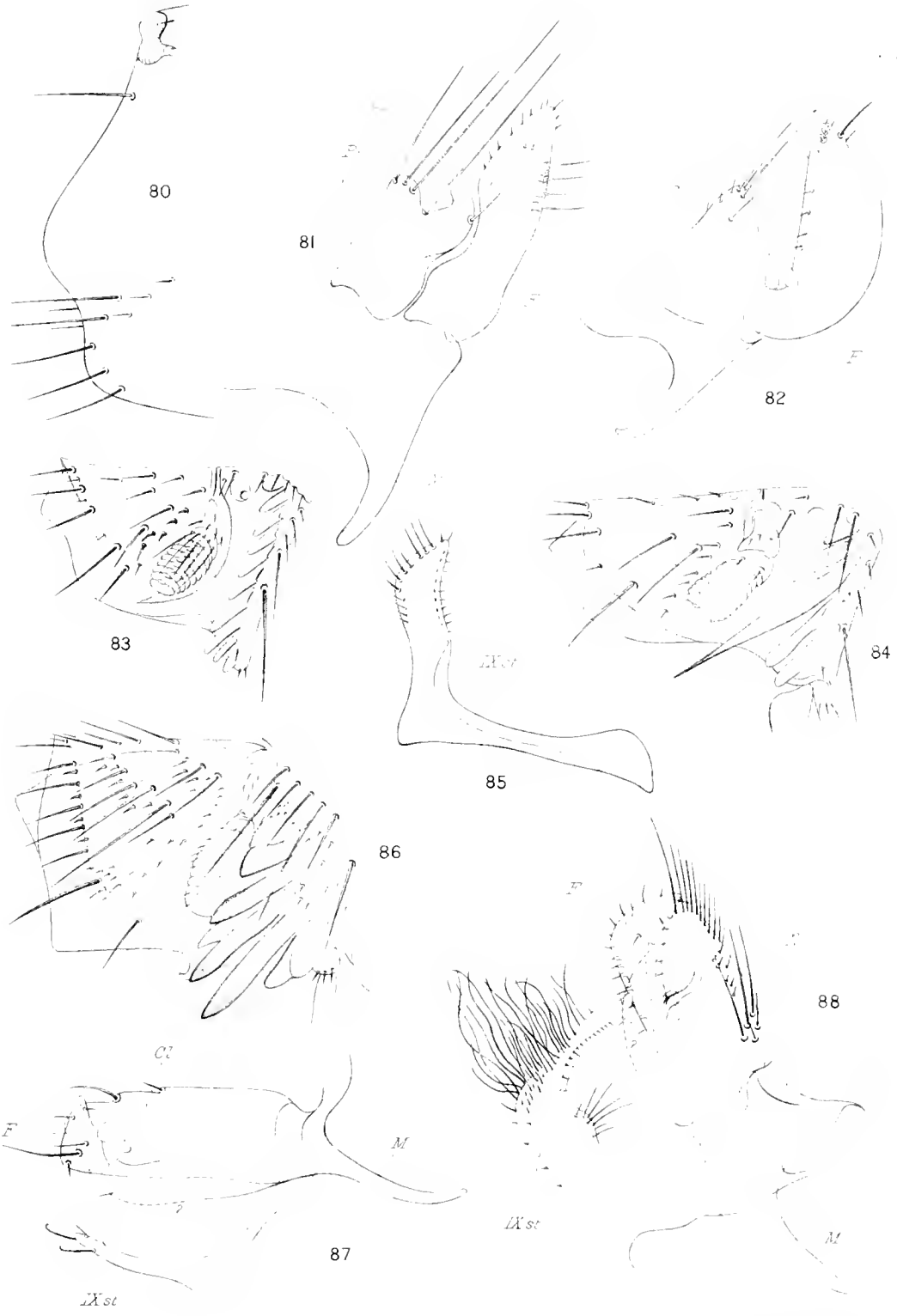


PLATE XV.

Fig. 80. Eighth abdominal tergite of ♀ of *Ctenophthalmus antiquorum* . p. 644
„ 81. Clasping organs of ♂ of *Ctenophthalmus pseudagyrtes* . . p. 642
„ 82. The same of *Ctenophthalmus antiquorum* . . . . . p. 644
„ 83. Head of ♂ of *Ctenopsyllus aganippes* . . . . . p. 647
„ 84. The same of *Ctenopsyllus granti* . . . . . p. 646
„ 85. Ninth abdominal sternite of ♂ of *Ctenopsyllus hygini* . . p. 651
„ 86. Head of ♂ of *Ctenopsyllus brooksi* . . . . . p. 650
„ 87. Clasping organs of ♂ of *Ctenopsyllus granti* . . . . p. 647
„ 88. The same of *Ctenopsyllus brooksi* . . . . . p. 650



K. Jordan del

West, Newman & Co. del

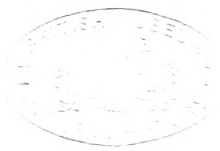
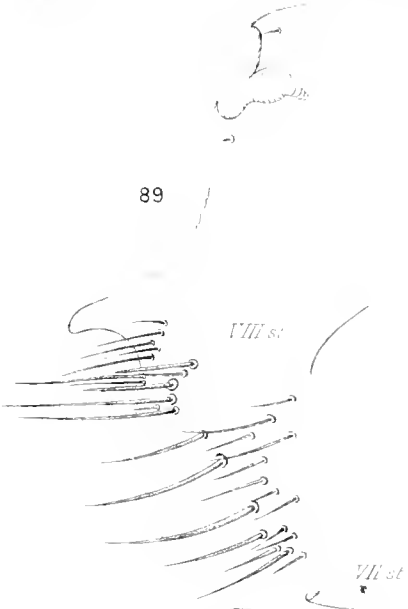


PLATE XVI.

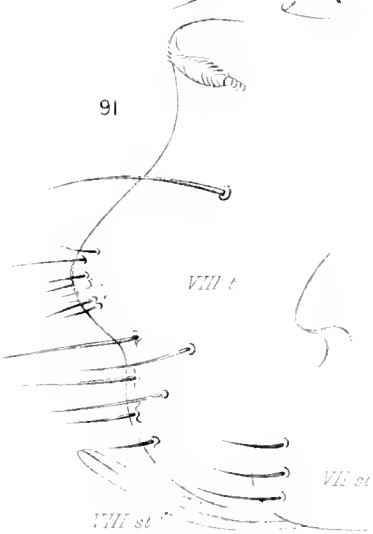
Fig. 89. Eighth abdominal segment and seventh sternite of ♀ of *Ctenopsyllus brooksi* . . . . . p. 650
„ 90. Clasping organs of ♂ of *Ctenopsyllus aganippes* . . . p. 648
„ 91. Eighth abdominal segment and seventh sternite of ♀ of *Ctenopsyllus granti* . . . . . p. 647
„ 92. Clasping organs of ♂ of *Ctenopsyllus hyrtaci* . . . . p. 652
„ 93. Eighth abdominal segment of ♀ of *Ctenopsyllus hygini* . . p. 651
„ 94. Third and fourth abdominal tergites of the same (to show minute serration of apical edges) . . . . . p. 651
„ 95. Eighth abdominal segment and seventh sternite of *Ctenopsyllus hyrtaci* . . . . . p. 652

89

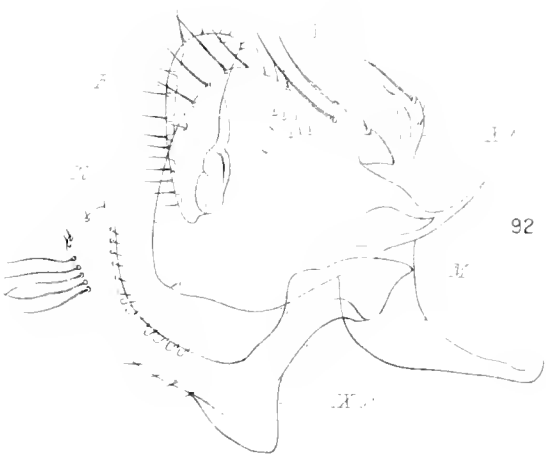


90

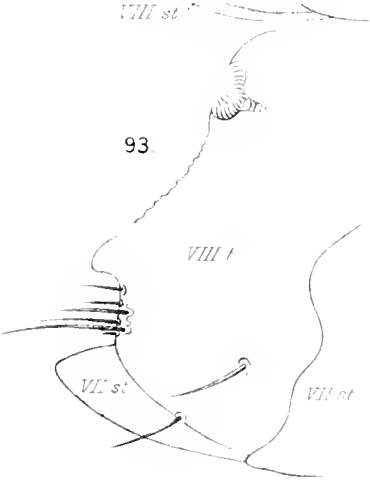
91



92

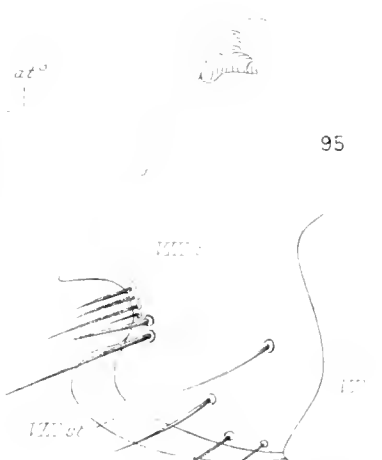


93



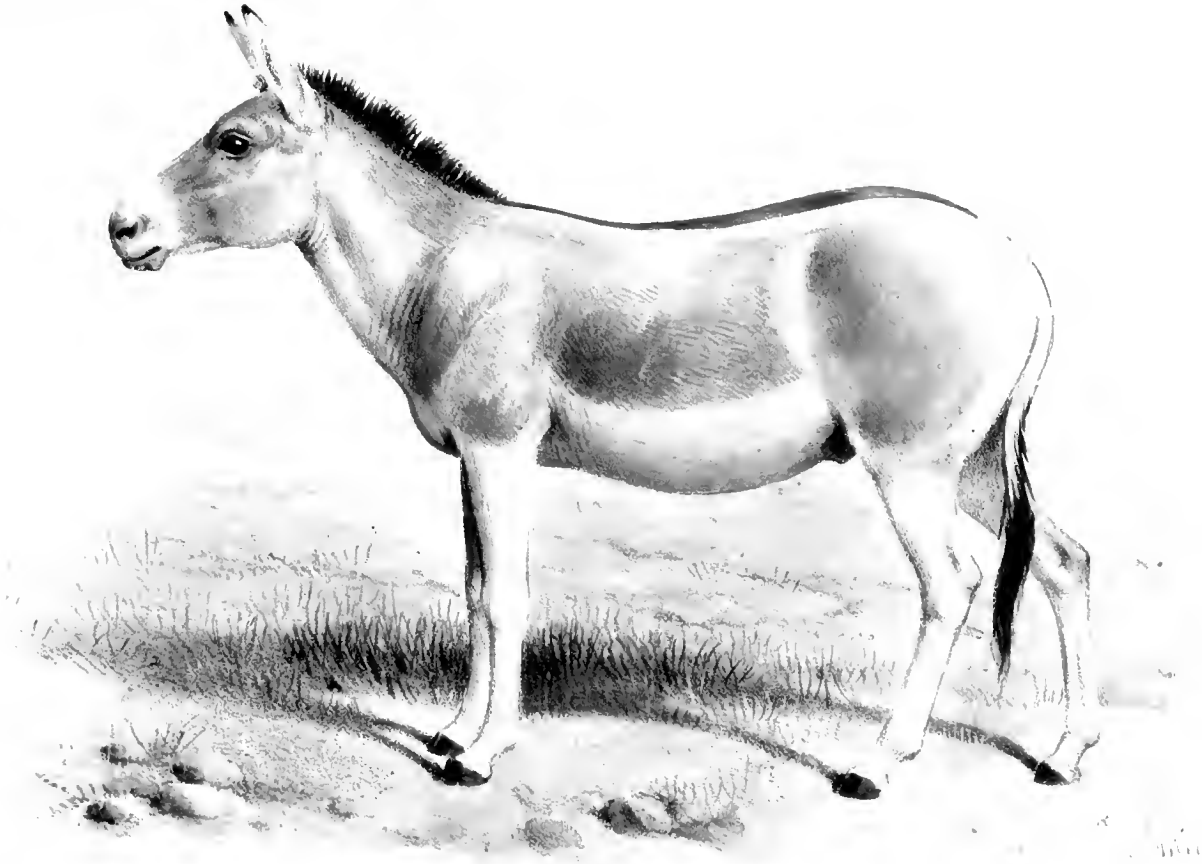
94

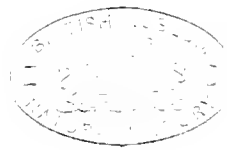
95

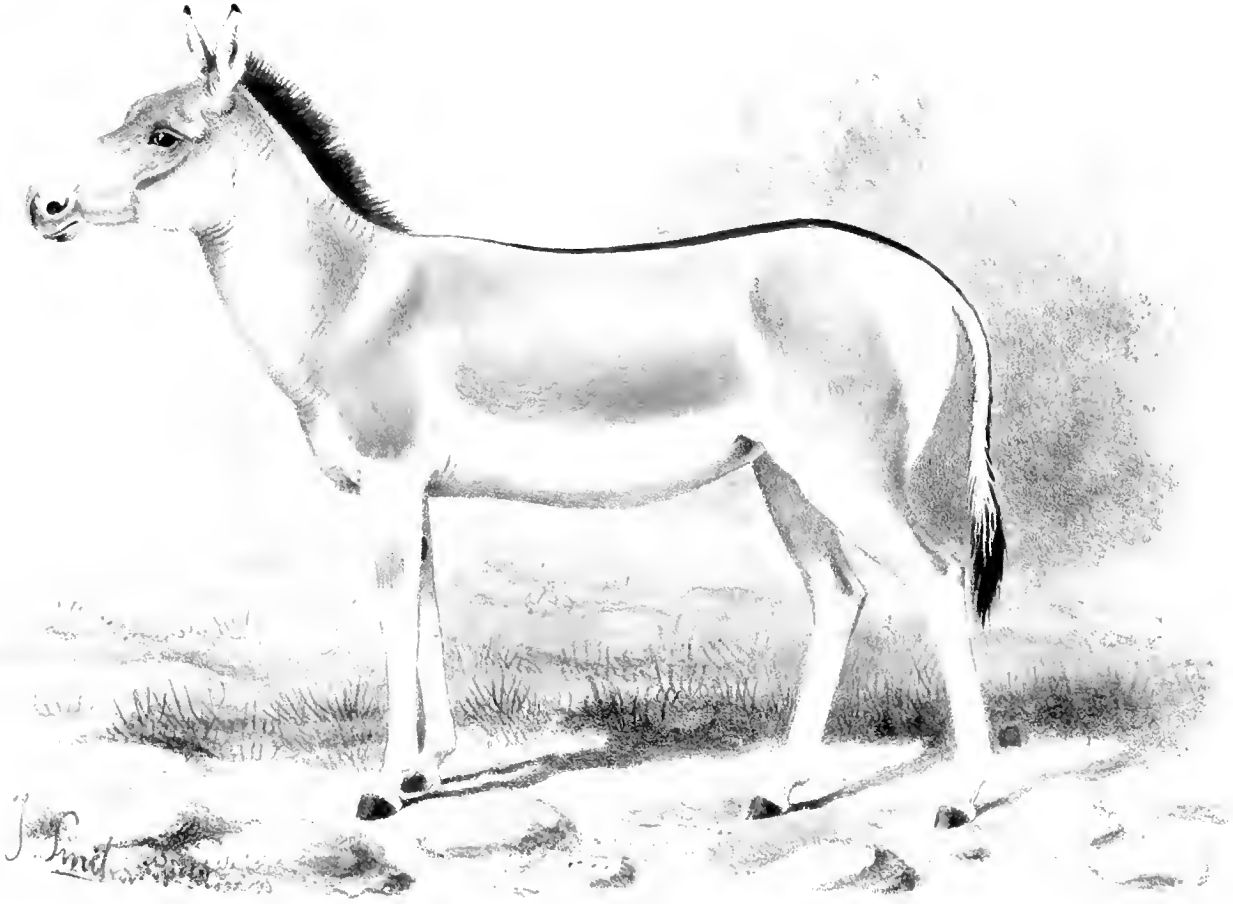


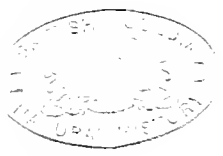
K Jordan del

West Newman lith London

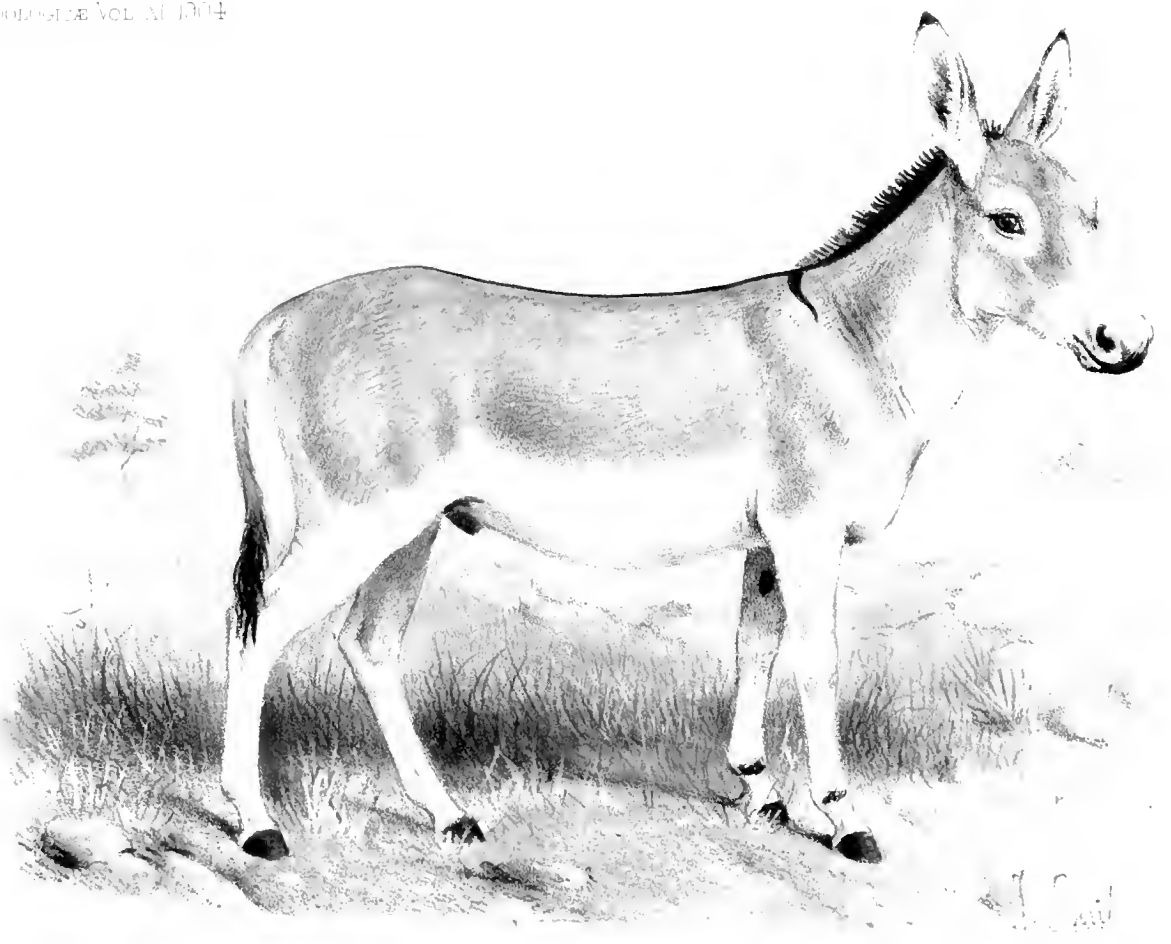








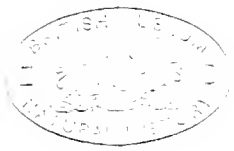
[illegible] Tiphlonagerionag[illegible]
[illegible] Female [illegible] the London Zoological Garden



NUBIAN WILD ASS. Equus asinus africanus.

(Male from Nakheila on the Athara River.)

Mat. Sc. imp.



21 APR. 1904

NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XI.

No. 1.

ISSUED, MARCH 25TH, AT THE ZOOLOGICAL MUSEUM, TRING.

PAGES 1—366. PLATE I.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1904.

VOL. XI.

NOVITATES ZOOLOGICAE.

EDITED BY

WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN.

CONTENTS OF NO. I.

			PAGES
1.	NEW AMERICAN *THYRIDIDAE*, *URANIIDAE*, AND *GEOMETRIDAE*	*Warren* . .	1—173
2.	THE BIRDS OF THE SOUTH-WEST ISLANDS WETTER, ROMA, KISSE . . . MOA	*Ernst Hartert* .	174—221
3.	ON A COLLECTION OF MAMMALS MADE BY MR. J. T. TUNNEY IN ARNHEM LAND, NORTHERN TERRITORY OF SOUTH AUSTRALIA	*Oldfield Thomas* .	222—229
4.	SOME NEW ORIENTAL ANTHRIBIDAE. .	*Karl Jordan* .	230—237
5.	SOME NEW AFRICAN ANTHRIBIDAE . .	*Karl Jordan* .	238—241
6.	AMERICAN ANTHRIBIDAE	*Karl Jordan* .	242—309
7.	LEPIDOPTERA FROM BRITISH NEW GUINEA, COLLECTED BY MR. A. S. MEEK (PLATES II., III.)	*Walter Rothschild*	310—322
8.	ON A LARGE COLLECTION OF RHOPALOCERA FROM THE SHORES OF THE VICTORIA NYANZA (PLATE I.) . . .	*S. A. Neave* .	323—363
9.	SOME NEW AFRICAN CERAMBYCIDAE .	*Karl Jordan* .	364—365
10.	ON A NEW ROCK-WALLABY FROM NORTH-WEST AUSTRALIA	*Oldfield Thomas* .	365—366
11.	A NEW FORM OF *PROTHOË* FROM THE SOLOMON ISLANDS	*Walter Rothschild* .	366

Soeben erschien **Just Published:**

AUS DEN WANDERJAHREN EINES NATURFORSCHERS.

Reisen und Forschungen in Afrika, Asien und Amerika

NEBST DARAN ANKNÜPFENDEN, MEIST ORNITHOLOGISCHEN STUDIEN

von ERNST HARTERT.

Ein Band von xv und 329 Seiten mit 13 Tafeln und 17 Abbildungen im Text. Klein -4. In Leinenband.

PREIS 25 MARK.

In Commission bei: R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

One Volume of xv and 329 pages, with 13 Plates and 17 Illustrations in the Text. Small 4°. (Linen cover.)

PRICE £1 5s.

Sold by: R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

A REVISION OF THE LEPIDOPTEROUS FAMILY

SPHINGIDAE.

BY THE

Hon. WALTER ROTHSCHILD, Ph.D.

AND

KARL JORDAN, M.A.L., Ph.D.

PRICE: for Booksellers, £5; for the Public, £6.

CXXXV and 972 pages, with 67 Plates.

The Work has been presented (free of charge) to all subscribers to Volume IX. of "Novitates Zoologicae."

Advertisements of Zoological Objects and Zoological Books only accepted.

Subscriptions for the present Volume are due NOW.

Dr. STAUDINGER & BANG-HAAS,

BLASEWITZ-DRESDEN,

In their NEW PRICE LIST, No. XLVI., offer more than 16,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition: 1,400 kinds of PREPARED LARVAE; numerous LIVING PUPAE, etc. SEPARATE PRICE LISTS, Nos. XX. and XXII., for COLEOPTERA (21,000 Species).

LISTS V. and VI., for HYMENOPTERA (2,800 Species), DIPTERA (1,850), HEMIPTERA (1,550), NEUROPTERA (550), ORTHOPTERA (950).

All Lists have a convenient index of genera.

Liberal Discount for Cash Orders. Prices low.

WILHELM SCHLUETER,

HALLE-a.-S., GERMANY.

LARGEST STOCK OF

European and Exotic BIRD SKINS.

European and Exotic BIRDS' EGGS

In stock: nearly 20,000 Bird Skins and 60,000 Birds' Eggs

LATEST PRICE-LISTS POST FREE ON APPLICATION.

A new Catalogue of Exotic Birds, containing more than 2,000 species, will be published shortly.

Skins and Eggs sent on approval if desired.

Collectors in many parts of the World.

Largest Establishment on the Continent.

W. F. H. ROSENBERG,

Importer of EXOTIC ZOOLOGICAL COLLECTIONS,

57, HAVERSTOCK HILL, LONDON, N.W.

Fresh consignments are constantly arriving, including MAMMALS, BIRDS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED

SPECIMENS SENT ON APPROVAL.

Zoologists are invited to write, indicating their special branches of study, when periodical lists of fresh material will be sent them.

RECENT ARRIVALS

From Wetter, Roma, Moa, Kisser, Buru and the Tukang Besi Islands, south of Celebes: from Morocco, Trinidad, Tobago and Abyssinia:

Collections of properly labelled birdskins, containing many rarities.

For detailed lists of the above apply to—

W. F. H. ROSENBERG,

57, Haverstock Hill, London, N.W.

ROWLAND WARD, Ltd.,

"The Jungle,"

166, PICCADILLY, LONDON, W.

MAMMALS, BIRDS,

ETHNOGRAPHICAL SPECIMENS

for Museums.

Great Auk Egg for Sale, Price £200.

R. TANCRÉ,

ANKLAM, POMMERN, GERMANY,

receives every year from his collectors Large Collections of **LEPIDOPTERA** from CENTRAL ASIA (Turkestan, Kuldscha, Northern Thibet) and EASTERN SIBERIA (Amoor), and sells all his Duplicates at very Moderate Prices. Price Lists post free to any address on application.

R. TANCRÉ.

Annual Subscription to "Novitates Zoologicae," £1 1s.

Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on completed volumes only.)

Communications, etc., may be addressed to
THE EDITORS OF "NOVITATES ZOOLOGICAE,"
ZOOLOGICAL MUSEUM,
TRING.

PRINTED BY HAZELL, WATSON AND VINEY, LD., LONDON AND AYLESBURY.

10 SEP. 1904

NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XI.

No. 2.

ISSUED, SEPTEMBER 12TH, AT THE ZOOLOGICAL MUSEUM, TRING.

PAGES 367—654. PLATES IV.—XVI.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1904.

VOL. XI.

NOVITATES ZOOLOGICAE.

EDITED BY

WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN.

CONTENTS OF NO. II.

			PAGES
1.	NEW LEPIDOPTERA FROM BRITISH NEW GUINEA (PLATES IV.—VI.)	*G. T. Bethune Baker*	367—429
2.	BEOBACHTUNGEN AUF TENERIFE . .	*Rudolf von Thanner*	430—434
3.	NEW SPHINGIDAE	*Walter Rothschild* .	435—440
4.	SOME NEW MOTHS	*Karl Jordan* . .	441—447
5.	SOME NEW COLEOPTERA COLLECTED BY REV. HENRI A. JUNOD AT SHILOUVANE, NEAR LEYDSDORP, IN THE TRANSVAAL	*L. Péringuey* . .	448—451
6.	A NEW AFRICAN *MELANITIS* . . .	*Walter Rothschild* .	451
7.	NEW FORMS OF BUTTERFLIES . . .	*Walter Rothschild* .	452—455
8.	MISCELLANEA ORNITHOLOGICA. PART I.	*Ernst Hartert* .	456—460
9.	NEW DREPANULIDAE, THYRIDIDAE, URANIIDAE, AND GEOMETRIDAE FROM THE AETHIOPIAN REGION . . .	*W. Warren* . .	461—482
10.	NEW THYRIDIDAE AND GEOMETRIDAE FROM THE ORIENTAL REGIONS . .	*W. Warren* . .	483—492
11.	NEW AMERICAN THYRIDIDAE, URANIIDAE, AND GEOMETRIDAE . .	*W. Warren* . .	493—582
12.	NOTES ON THE SPECIMENS OF WILD ASSES IN ENGLISH COLLECTIONS (PLATES XVII.—XX.)	*R. Lydekker* . .	583—596
13.	NEW SPECIES OF PTEROPUS, MUS, AND POGONOMYS FROM THE AUSTRALIAN REGION	*Oldfield Thomas* .	597—600
14.	TWO NEW *SATURNIIDAE*	*Walter Rothschild* .	601
15.	FURTHER CONTRIBUTIONS TO THE KNOWLEDGE OF THE SIPHONAPTERA (PLATES VII.—XVI.)	*N. C. Rothschild* .	602—653
16.	A NEW SUBSPECIES OF *TROIDES VICTORIAE*	*Walter Rothschild* .	654

Soeben erschien: **Just Published:**

AUS DEN WANDERJAHREN EINES NATURFORSCHERS.

Reisen und Forschungen in Afrika, Asien und Amerika

NEBST DARAN ANKNÜPFENDEN, MEIST ORNITHOLOGISCHEN STUDIEN

von ERNST HARTERT.

Ein Band von xv und 329 Seiten mit 13 Tafeln und 17 Abbildungen im Text. Klein -4. In Leinenband.

PREIS 25 MARK.

In Commission bei: R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

One Volume of xv and 329 pages, with 13 Plates and 17 Illustrations in the Text. Small 4°. (Linen cover.)

PRICE £1 5s.

Sold by: R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

A REVISION OF THE LEPIDOPTEROUS FAMILY

SPHINGIDAE.

BY THE

Hon. WALTER ROTHSCHILD, Ph.D.

AND

KARL JORDAN, M.A.L., Ph.D.

PRICE: for Booksellers, £5; for the Public, £6.

cxxxv and 972 pages, with 67 Plates.

The Work has been presented (free of charge) to all subscribers to Volume IX. of "Novitates Zoologicae."

Advertisements of Zoological Objects and Zoological Books only accepted.

Subscriptions for the present Volume are due NOW.

Dr. STAUDINGER & BANG-HAAS,

BLASEWITZ-DRESDEN,

In their NEW PRICE LIST, No. XLVI., offer more than 16,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition; 1,400 kinds of PREPARED LARVAE; numerous LIVING PUPAE, etc. SEPARATE PRICE LISTS, Nos. XX. and XXII., for COLEOPTERA (21,000 Species).

LISTS V. and VI., for HYMENOPTERA (2,800 Species). DIPTERA (1,850). HEMIPTERA (1,550), NEUROPTERA (550), ORTHOPTERA (950).

All Lists have a convenient index of genera.

Liberal Discount for Cash Orders. Prices low.

WILHELM SCHLUETER,

HALLE-a.-S., GERMANY.

LARGEST STOCK OF
European and Exotic BIRD SKINS.
European and Exotic BIRDS' EGGS

In stock: naarly 20,000 Bird Skins and 60,000 Birds' Eggs

LATEST PRICE-LISTS POST FREE ON APPLICATION.

A new Catalogue of Exotic Birds, containing more than 2,000 species, will be published shortly.

Skins and Eggs sent on approval if desired.
Collectors in many parts of the World.

Largest Establishment on the Continent.

W. F. H. ROSENBERG,

Importer of EXOTIC ZOOLOGICAL COLLECTIONS,

57, HAVERSTOCK HILL, LONDON, N.W.

Fresh consignments are constantly arriving, including MAMMALS, BIRDS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED.

SPECIMENS SENT ON APPROVAL.

Zoologists are invited to write, indicating their special branches of study, when periodical lists of fresh material will be sent them.

RECENT ARRIVALS

From the Galápagos Islands:

Specimens in alcohol of the Sea Iguana, **Amblyrhynchus cristatus.**

From Buru and the Tukang Besi Islands, south of Celebes: from Morocco, Trinidad, Tobago and Abyssinia:

Collections of properly labelled birdskins, containing many rarities.

For detailed lists of the above apply to—

W. F. H. ROSENBERG,
57, Haverstock Hill, London, N.W.

ROWLAND WARD, Ltd.,

"The Jungle,"

166, PICCADILLY, LONDON, W.

MAMMALS, BIRDS,

ETHNOGRAPHICAL SPECIMENS

for Museums.

R. TANCRÉ,

ANKLAM, POMMERN, GERMANY,

receives every year from his collectors Large Collections of **LEPIDOPTERA** from CENTRAL ASIA (Turkestan, Kuldscha, Northern Thibet) and EASTERN SIBERIA (Amoor), and sells all his Duplicates at very Moderate Prices. Price Lists post free to any address on application.

R. TANCRÉ.

Annual Subscription to "Novitates Zoologicae," £1 1s.

Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on completed volumes only.)

Communications, etc., may be addressed to
THE EDITORS OF "NOVITATES ZOOLOGICAE,"
ZOOLOGICAL MUSEUM,
TRING.

PRINTED BY HAZELL, WATSON AND VINEY, LD., LONDON AND AYLESBURY.

-3 JAN. 1905

NOVITATES ZOOLOGICAE.

A Journal of Zoology.

EDITED BY

THE HON. WALTER ROTHSCHILD, PH.D.,

DR. ERNST HARTERT, AND DR. K. JORDAN.

VOL. XI.

No. 3.

PAGES 655—685 (INDEX). PLATES XVII. XXI.

PRINTED BY HAZELL, WATSON & VINEY, LD., LONDON AND AYLESBURY.

1904.

VOL. XI.

NOVITATES ZOOLOGICAE.

EDITED BY

WALTER ROTHSCHILD, ERNST HARTERT, and KARL JORDAN

CONTENTS OF NO. III.

PAGE

INDEX TO VOLUME XI. 655

(TITLE-PAGE AND CONTENTS OF VOLUME XI.)

Soeben erschien **Just Published:**

AUS DEN WANDERJAHREN EINES NATURFORSCHERS.

Reisen und Forschungen in Afrika, Asien und Amerika

NEBST DARAN ANKNÜPFENDEN, MEIST ORNITHOLOGISCHEN STUDIEN

von ERNST HARTERT.

Ein Band von xv und 329 Seiten mit 13 Tafeln und 17 Abbildungen im Text. Klein -4. In Leinenband.

PREIS 25 MARK.

In Commission bei: R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

One Volume of xv and 329 pages, with 13 Plates and 17 Illustrations in the Text. Small 4°. (Linen cover.)

PRICE £1 5s.

Sold by: R. H. PORTER, 7, PRINCES ST., CAVENDISH SQUARE, LONDON, W.
R. FRIEDLÄNDER & SOHN, CARLSTR. 11, BERLIN.
MARTINUS NIJHOFF, 's GRAVENHAGE, HOLLAND.

A REVISION OF THE LEPIDOPTEROUS FAMILY

SPHINGIDAE.

BY THE

Hon. WALTER ROTHSCHILD, Ph.D.

AND

KARL JORDAN, M.A.L., Ph.D.

PRICE: for Booksellers, £5; for the Public, £6.

cxxxv and 972 pages, with 67 Plates.

The Work has been presented (free of charge) to all subscribers to Volume IX. of "Novitates Zoologicae."

Advertisements of Zoological Objects and Zoological Books only accepted.

Subscriptions for the present Volume are due NOW.

Dr. STAUDINGER & BANG-HAAS,

BLASEWITZ-DRESDEN,

In their NEW PRICE LIST, No. XLVI., offer more than 16,000 Species of well-named LEPIDOPTERA, set or in Papers, from all parts of the world, in finest condition; 1,400 kinds of PREPARED LARVAE; numerous LIVING PUPAE, etc. SEPARATE PRICE LISTS, Nos. XX. and XXII., for COLEOPTERA (21,000 Species).

LISTS V. and VI., for HYMENOPTERA (2,800 Species), DIPTERA (1,850), HEMIPTERA (1,550), NEUROPTERA (550), ORTHOPTERA (950).

All Lists have a convenient index of genera.

Liberal Discount for Cash Orders. Prices low.

WILHELM SCHLUETER,

HALLE-a.-S., GERMANY.

LARGEST STOCK OF
European and Exotic BIRD SKINS.
European and Exotic BIRDS' EGGS

In stock: nearly 20,000 Bird Skins and 60,000 Birds' Eggs

LATEST PRICE-LISTS POST FREE ON APPLICATION.

A new Catalogue of Exotic Birds, containing more than 2,000 species, will be published shortly.

Skins and Eggs sent on approval if desired.
Collectors in many parts of the World.

Largest Establishment on the Continent.

W. F. H. ROSENBERG,

Importer of EXOTIC ZOOLOGICAL COLLECTIONS,

57, HAVERSTOCK HILL, LONDON, N.W.

Fresh consignments are constantly arriving, including MAMMALS, BIRDS, BIRDS' EGGS, REPTILES, AMPHIBIANS, FISHES, INSECTS OF ALL ORDERS, SHELLS, etc., etc., from all parts of the world.

LOCALITIES GUARANTEED.

SPECIMENS SENT ON APPROVAL.

Zoologists are invited to write, indicating their special branches of study, when periodical lists of fresh material will be sent them.

RECENT ARRIVALS

From Wetter, Roma, Moa, Kisser, Buru and the Tukang Besi Islands, south of Celebes: from Morocco, Trinidad, Tobago and Abyssinia:

Collections of properly labelled birdskins, containing many rarities.

For detailed lists of the above apply to—

W. F. H. ROSENBERG,
57, Haverstock Hill, London, N.W.

ROWLAND WARD, Ltd.,

"The Jungle,"

166, PICCADILLY, LONDON, W.

MAMMALS, BIRDS,

ETHNOGRAPHICAL SPECIMENS

for Museums.

Great Auk Egg for Sale, Price £200.

R. TANCRÉ,

ANKLAM, POMMERN, GERMANY,

receives every year from his collectors Large Collections of **LEPIDOPTERA** from CENTRAL ASIA (Turkestan, Kuldscha, Northern Thibet) and EASTERN SIBERIA (Amoor), and sells all his Duplicates at very Moderate Prices. Price Lists post free to any address on application.

R. TANCRÉ.

Annual Subscription to "Novitates Zoologicae," £1 1s.

Price of Yearly Volume, when completed, £1 10s. (Commission for Booksellers on completed volumes only.)

Communications, etc., may be addressed to
THE EDITORS OF "NOVITATES ZOOLOGICAE,"
ZOOLOGICAL MUSEUM,
TRING.

PRINTED BY HAZELL, WATSON AND VINEY, LD., LONDON AND AYLESBURY.